Nova Scotia
OIL AND GAS REPORT

1985

Nova Scotia

Department of
Mines and Energy

Honourable Joel R. Matheson, Q.C.
Minister

Cover Photo: Bow Drill 2
flaring at Chebucto K-90

MINISTER'S MESSAGE

Honourable Joel R Matheson, Q.C

It is my pleasure to present this report on oil and gas exploration and development in Nova Scotia.

Offshore oil and gas exploration is one of the most exciting projects in the province and it is certainly the one with the greatest potential impact on the future prosperity and financial health of Nova Scotia.

Early in 1985, Mobil and its partners in the Venture project signed agreements for the sale of natural gas to pipeline companies in the Northeastern United States. The signing of these sales agreements was followed with an application to the National Energy Board to export that gas to the United States.

These two activities were significant milestones in Nova Scotia's offshore oil and gas program. We are now moving beyond the exploration stage to the next phases, that of development and production. The industry has given a clear message to the people of Nova Scotia that they are moving forward in their plans to develop our offshore natural gas potential.

Developing the hydrocarbon resources of the Scotia Shelf is vital to the energy security of Atlantic Canada. Bringing the Venture field into production will be the largest single project in the history of Nova Scotia in terms of scale and expenditure. The Mobil partners estimate the cost of the Venture project at slightly more than $2 billion.

The stage is being set for an even greater pace of activity in the years ahead. The next few years will be very busy and challenging for both industry and government as Venture development takes place and new exploration activities occur.

Nova Scotia's offshore exploration has come a long way since the discovery of the Venture field in 1979. Other companies have since made major new discoveries on the Scotian Shelf near Sable Island.

Venture will be the first of many fields to be brought into production.

The construction of this first pipeline will encourage further exploration and will act as a catalyst for new gas field developments bringing with it additional employment and business opportunities.

It is my sincere belief that the exploration for oil and gas offshore Nova Scotia will continue to meet with the success of the past few years and I look forward to many more rewarding discoveries and positive events in the years ahead.

Joel R. Matheson, Q.C., Minister

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OIL & GAS EXPLORATION & DEVELOPMENT

Zapata Scotian and semi-submersible work platform Safe Gothia (left) at the N-91 well site Glomar Labrador 1 (background) drilling B-92 relief well

Mobil Oil Canada Limited

OFFSHORE

1 GEOLOGICAL SETTING

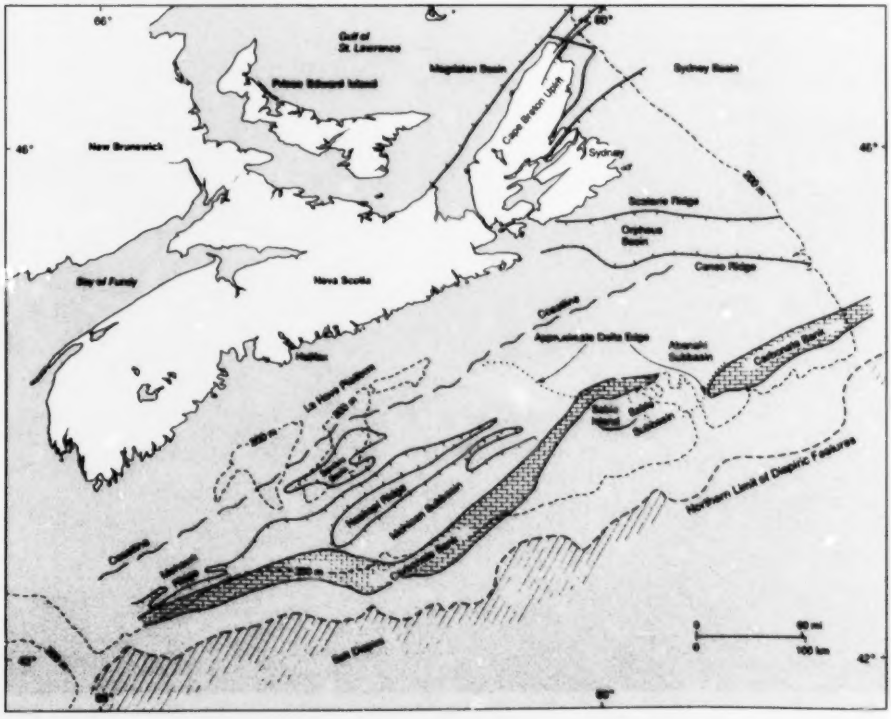
Nova Scotia's offshore region covers an area of approximately 100 million acres (40 million ha) and includes both the Scotian Shelf and the Scotian Slope which form part of the continental margin of eastern Canada. The margin is composed of three distinct parts; the continental shelf, which gently tilts away from the coast for approximately 150 miles (241 km) in water depths of up to 1,300 feet (400 m); the continental slope, a much shorter zone where water depths increase fairly rapidly to 8,200 feet (2 500 m); and the continental rise, a narrow band of sediment around the continental margin.

The areas of greatest interest for oil and gas exploration are the zones of the Scotian Shelf and Slope which are underlain by thick accumulations of sedimentary rocks.

The Scotian Shelf is one of Canada's largest sedimentary basins. Covering about 40 million acres (16 million ha), it stretches for about 435 miles (700 km) from Georges Bank in the west to the Laurentian Channel in the east, varying in width from 76 to 142 miles (122 to 228 km). About 22 million acres (8.9 million ha) of this area is currently licensed for oil and gas exploration. Sediments capable of producing hydrocarbons are found throughout the Scotian Shelf. The greatest thickness of sediments were deposited in the Sable Island Sub-basin (Figure 1) and it is here the majority of oil and gas discoveries on the Shelf are located.

The undersea topography of the shelf divides into three distinct areas. The Inner Shelf extends seaward 15 miles (24 km) from the coast line at water depths of 330 to 395 feet

1 Physiographic features at Lower Cretaceous time.



(100 to 120 m). The topography is rough and similar to the adjacent land mass. The Central Zone extends seaward from an inner trough for distances of between six miles (10 km) at the western end and 70 miles (110 km) at the eastern end. An irregular series of basins, including Roseway, La Have and Emerald, and banks, including Roseway, Sambro, Middle Canso and Misaine, are located in this zone. The Outer Shelf is 30 to 45 miles (48 to 72 km) wide, parallels the edge of the shelf and contains, five broad, flat-topped banks, Browns, Le Have, Emerald, Banquereau and Sable Island, the largest of the five.

Extending 160 miles (257 km) east-west and 50 miles (80 km) north-south, Sable Island Bank contains the island itself, a 20 mile (32 km) long, narrow arc of sand. Altogether 51 wells have been drilled in the Sable Island sub-basin (out of a total of 110 wells on the Scotian Shelf and Slope) including 9 wells drilled on the island itself.

Formations that occurred during the Jurassic and Cretaceous periods (210 to 140 million years ago) are central to creating the hydrocarbon potential of the Scotian Shelf and the Sable Island area in particular. Sediments were laid down in this area in stages beginning with a thick layer of salt deposited in early Jurassic time. This layer was deposited in a rift basin formed as the North American continent separated from the North African land mass (Figure 2). Subsequently buried under (now) overlying rocks, the salt flowed upward to form domes and pillows that now underlie many of the hydrocarbons bearing structures in the Sable Island area.

Carbonate banks, including the Baccaro carbonate front, formed a thick belt of limestone during the second stage of deposition in Jurassic time. These banks along the end of the Scotian Shelf and through the Sable Island area are composed of potential hydrocarbon reservoir rocks. Throughout the remaining Cretaceous time, a wide coarse clastic sandstone known as the Missisauga Formation was deposited over the shelf margin and the Baccaro carbonate front. Seaward of this front, the coarse sands gradually become interbedded with more shale and finally pass to shale. As the carbonate mass was completely buried by the sandstone and shale, a series of subsea deltas were created extending across the Scotian Shelf (deltas and their associated thick sandstones have been a major factor in accumulations of oil and gas around the world). Finally, the sea drowned out the deltas in late Cretaceous time, covering them with shale.

The creation of hydrocarbon reservoirs on the Scotian Shelf coincides with the formation of these deltas, the presence of sandstone reservoirs, structures caused by the movement of salt in combination with growth faults and organic material swept in by river systems that formed the deltas.

The Sable Island Sub-basin and Abenaki Sub-basin were centres of maximum deposition of sediment. The major hydrocarbon finds to date are primarily confined to the centre of maximum deposition that passes through these areas. Shale and sandstone deposited as alternate layers provide source and reservoir rocks, thick organic rich sediments buried deep enough to generate hydrocarbons and relief caused by deep salt layers and/or basement block configuration contribute the necessary ingredients to the formation of oil and gas fields.

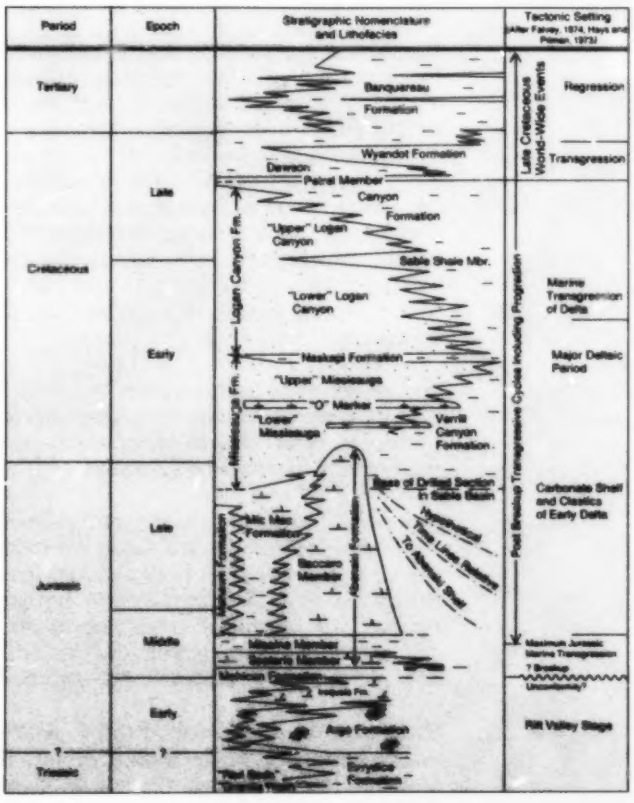
Hydrocarbons have been found in reservoirs ranging from the Late Cretaceous to Upper Jurassic time. The most consistent and successful oil and gas discoveries have been related to the down-to-basin structural faults that extend through the Sable Island

Sub-basin. The fault system parallels the Baccaro carbonate front seaward. It is in the Missisauga Formation, consisting of interbedded sandstones and shales of Late Jurassic and Early Cretaceous age, that the gas producing zones of sandstones have been discovered in the Venture field. These sands are by and large overpressured. The D-23 Venture discovery well, for instance, tested gas in six zones of Lower Cretaceous sandstones between 13,300 feet and 16,200 feet (4 054 and 4 938 m).

Hydrocarbons have also been found associated with the salt dome structures that underlie much of the sediment in the Sable Island area. These structures have, however, proved to be severely faulted and the hydrocarbon distribution has been complex as a result.

North of the Scotian Shelf and east of Cape Breton, the offshore sediments are once again older. Drilling offshore Sydney Basin identified sediments that are an extension of the onshore and, thus, are from Pennsylvanian through Mississippian in age.

The Magdalen Islands Basin, south and west through the Northumberland Strait and including northern Nova Scotia, has the potential to contain a thick Carboniferous sequence with many related evaporitic structures. This was evidenced by the Hudson Bay F-25 well that bottomed in Lower Mississipian at a depth of 9,875 feet (3 010 m).



2 Stratigraphic diagram of lithologic units.

2 EXPLORATION AGREEMENTS

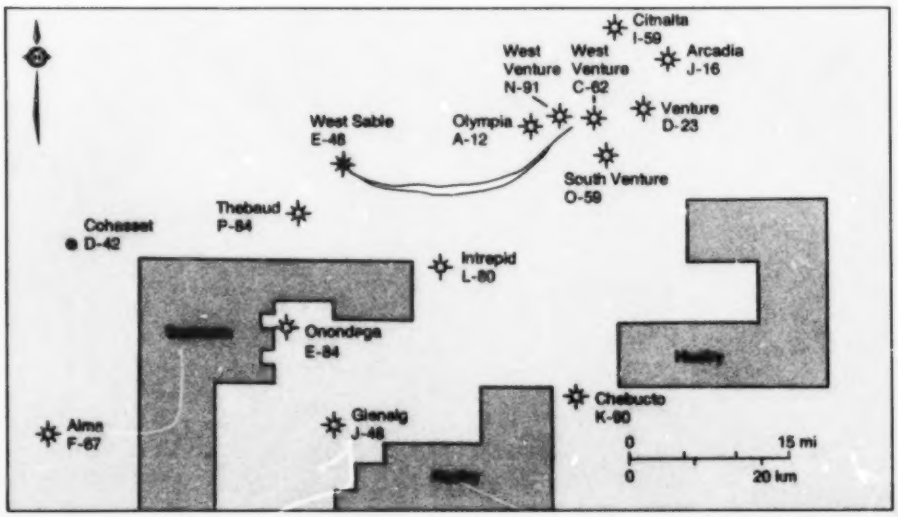
Oil and gas exploration in Nova Scotia's offshore region has been governed by exploration agreements since the signing in March 1982 of the Canada-Nova Scotia Agreement on Offshore Resource Management and Revenue Sharing. These agreements accomplish three basic tasks: (1) they define the area a company can explore for oil and gas; (2) they specify the amount of work the company must perform during the agreement; and (3) they set out the rate at which land must be returned, or "relinquished", to the Crown. Thirty-seven exploration agreements (E.A.s) have been negotiated since 1982, covering 30 million acres (12.2 million ha) of the 100 million acres (40.5 million ha) in Nova Scotia's offshore region.

The first 35 EA's committed oil and gas companies to drill 46 wells by 1988 at an estimated cost of more than two billion dollars. Twenty-five have been completed, and two are currently being drilled. Another ten wells, mainly delineation wells, have been or are being drilled but they are not considered among the 46 commitment wells required under these E.A.'s.

In April 1985, Nova Scotia Mines and Energy Minister Joel Matheson and federal Energy Minister Pat Carney announced the successful bidders for the first new lands posted since the Canada/Nova Scotia Agreement was signed in 1982 (Figure 3). Two new exploration agreements were announced, these cover lands located south and southwest respectively of the Venture gas field. The first agreement is for four years and covers an area of 225,824 acres (91,390 ha). Partners are Husky Oil Operations Limited (37.5%), Bow Valley Industries (37.5%), Scotia Energy Resources (12.5%) and Durham Resources (12.5%). The second agreement is for three years and covers an area of 178,683 acres (72,312 hectares). Partners are Canterra Energy Resources Limited (40%), Shell Canada Resources Limited (30%), Esso Resources Canada Limited (15%) and Trillium Exploration Corporation (15%).

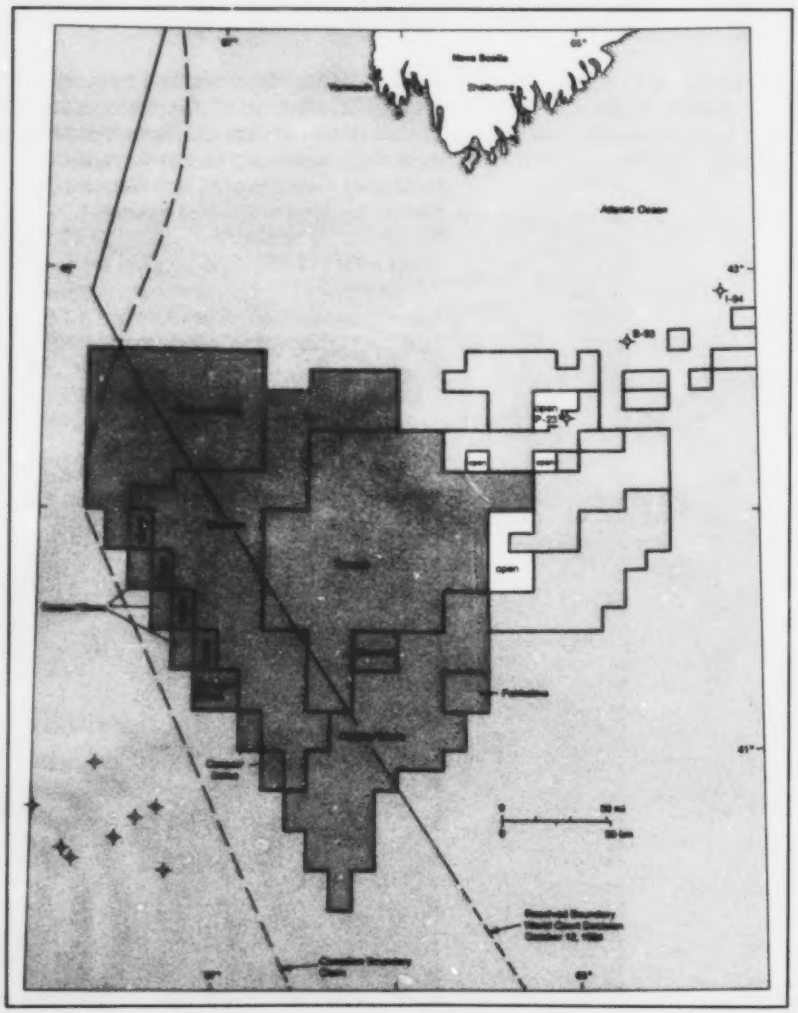
The addition of these two new E.A.'s and the expiry of previous E.A.'s bring to 29 the number in effect at the end of June 1985.

3 Lands awarded offshore Nova Scotia in 1985.

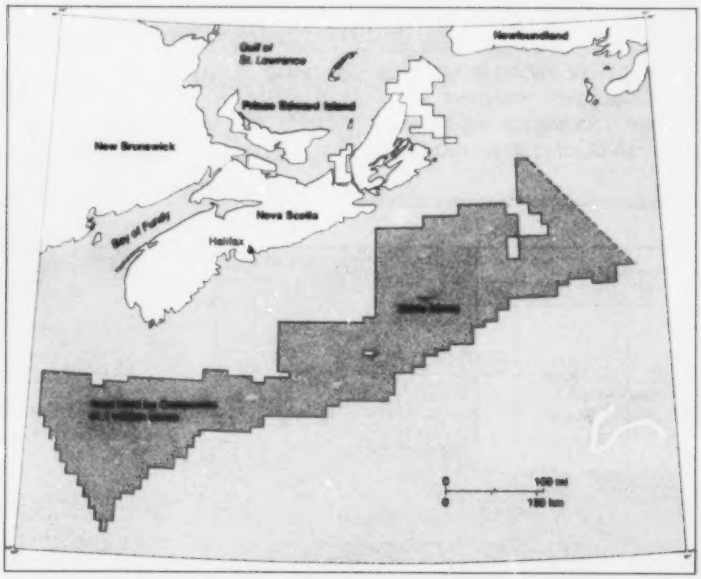


In addition to the area covered by exploration agreements, oil and gas companies hold licenses to another 9.4 million acres (3.8 million ha) offshore Nova Scotia. These lands are in the Canadian portion of Georges Bank and in the eastern Scotian Shelf and Slope where there is a boundary dispute between Canada and France over lands surrounding the islands of Saint Pierre et Miquelon. Following almost a decade of negotiations over the boundary line in the Gulf of Maine between Canada and the United States, a decision was reached by the World Court in October of 1984 giving Canada one-sixth of the Georges Bank (Figure 4). Companies holding lands on the Canadian portion of Georges Bank have shown interest in negotiating exploration agreements. Exploration activity will be limited in this area until fisheries and environmental issues are suitably resolved. Oil and gas licenses for the lands affected by boundary disputes were all issued prior to the signing of the Canada-Nova Scotia Agreement.

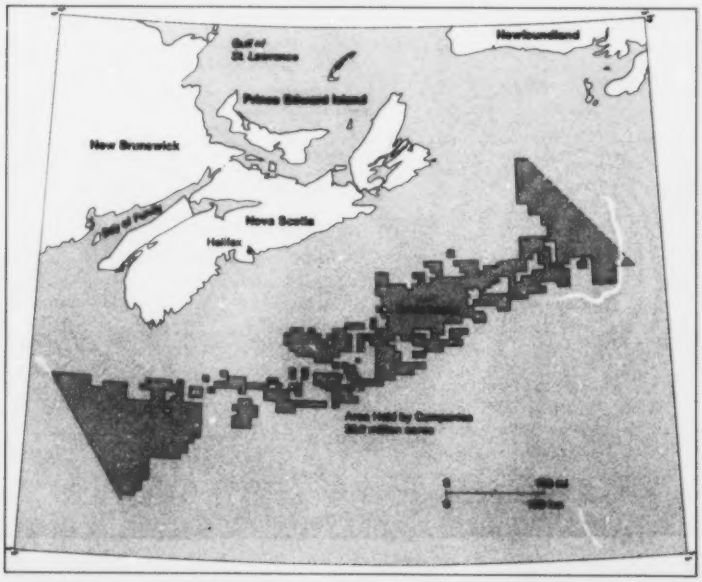
4 Georges Bank area and boundary decision.



The area held under the "first round" of exploration agreements was reduced considerably during the terms of these agreements by a surrendering process called "relinquishment", required in all such agreements (Figures 5,6). Relinquishment provisions provide a way to make land available to other interested companies and maintain the pace of exploration. Other agreements are expected to follow the two new agreements announced in 1985 on previously relinquished lands.



5 Lands held by exploration companies in 1983.

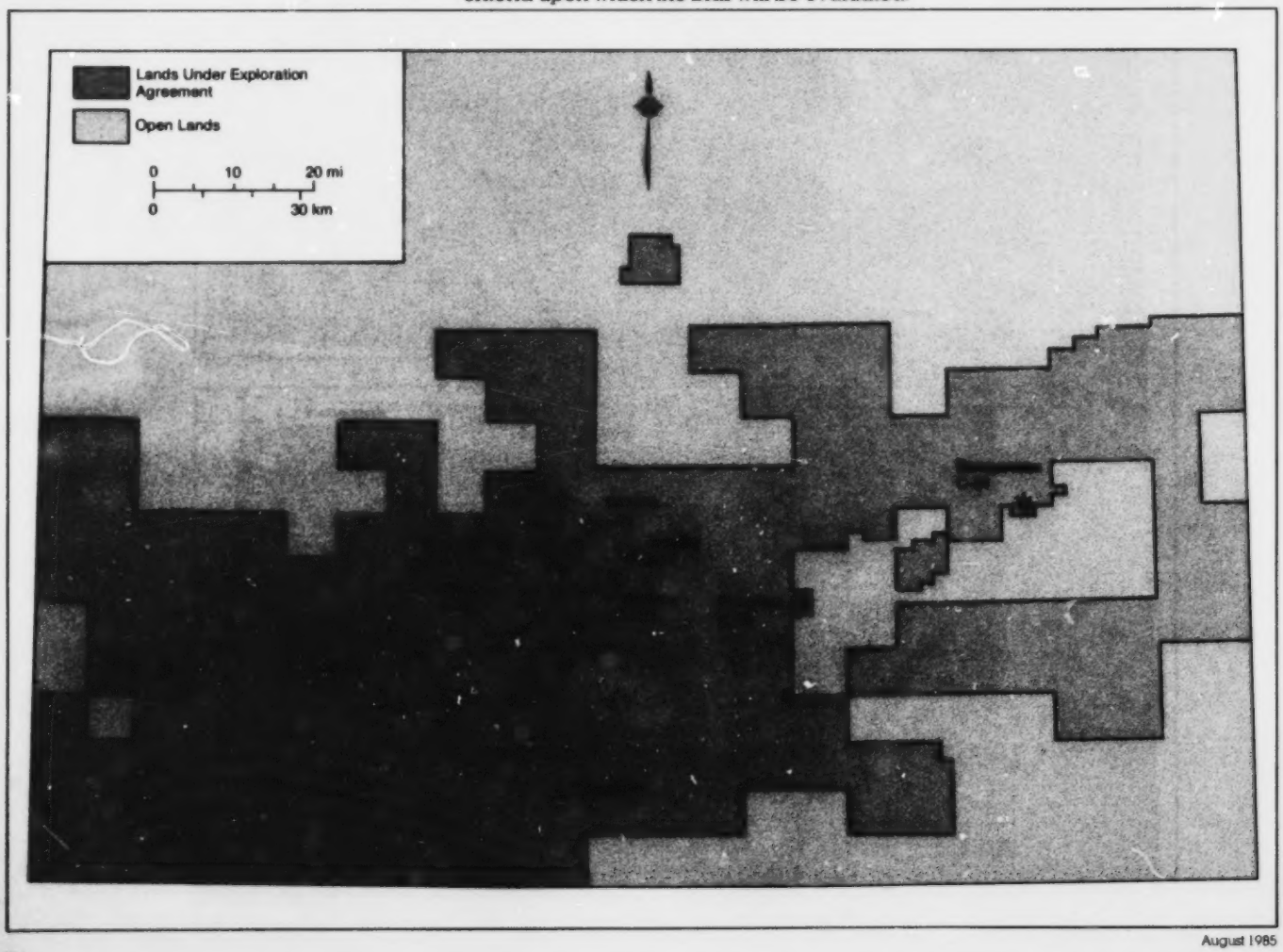


6 Lands held by exploration companies in 1985.

Since 1982, approximately 11.1 million acres (4.4 million ha) have been relinquished and another 0.9 million acres (364,230 ha) are expected to be surrendered, as the term of the first round exploration agreements is completed, including the first ever relinquishment on Mobil's Sable Island block. In addition, about 5.7 million acres (2.3 million ha) covered by unfulfilled exploration agreements have been surrendered to the Crown. These surrendered lands and other Crown lands not currently held by any company in the offshore area can be issued to interested companies through a process called the posting of lands (Figure 7). This process is comprised of the following steps:

- Call for industry nominations to identify lands of interest to oil and gas companies.
- Call for Proposals from interested companies stipulating the specific terms and conditions which will apply to the exploration of the lands to be awarded and the criteria upon which the bids will be evaluated.

7 Crown and Exploration Agreement lands surrounding Sable Island.

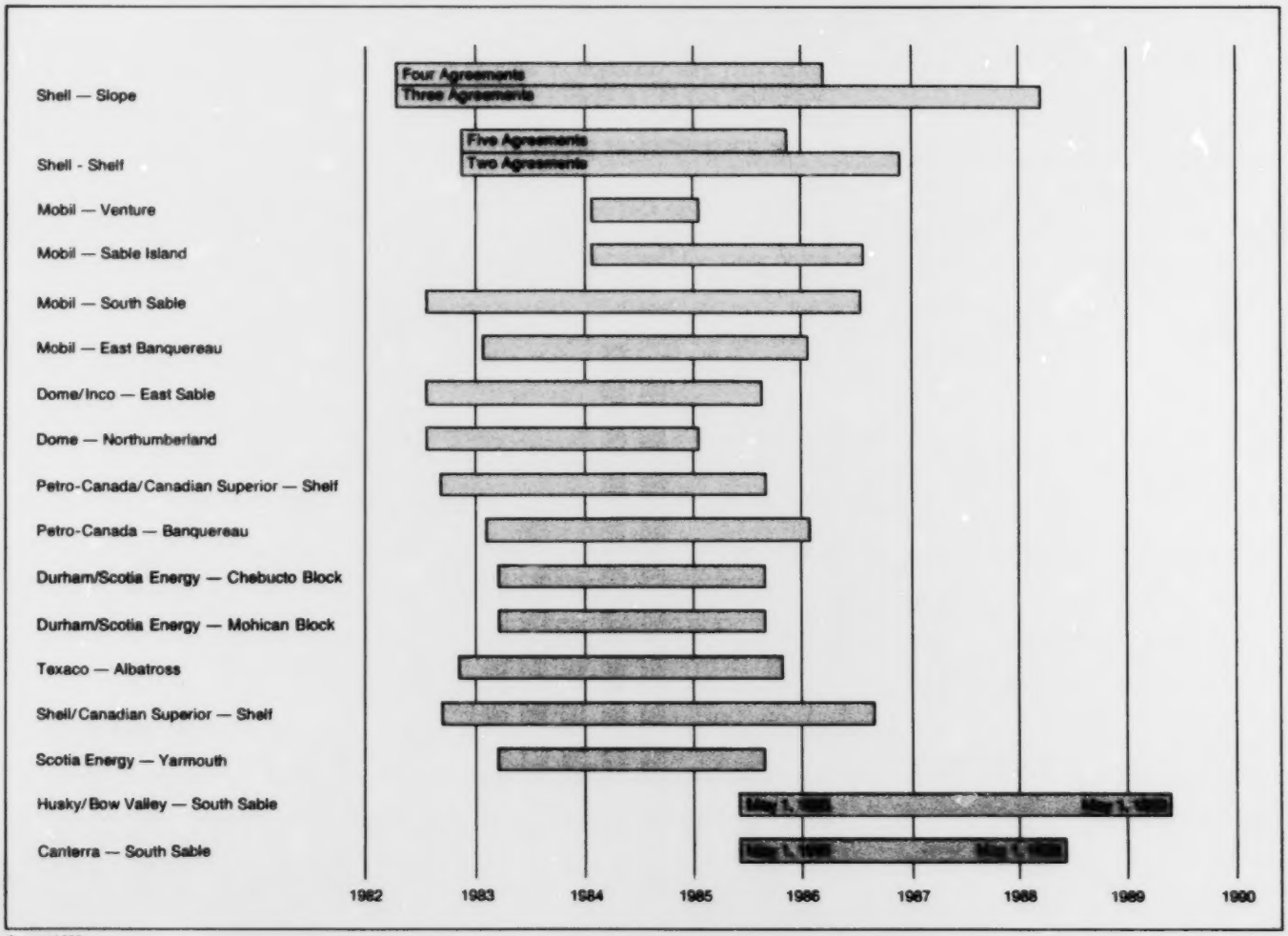


- Evaluate bids and award an Exploration Agreement for the lands.

Plans are underway to make the land posting a regular event beginning in 1986. Under all new exploration agreements, including the two new agreements announced in April 1985, companies must post a performance bond. This bond provides a form of guarantee the companies will meet the work commitments made under the exploration agreement.

The majority of the "first round" of exploration agreements terminate in late 1985 or early in 1986 (Figure 8). Land relinquishments under new agreements will occur at the end of the term (as in the case of the two new awarded South Sable exploration agreements) rather than during the life of the exploration agreement. This allows the operator a fairer opportunity to evaluate the lands prior to surrender to the Crown.

8 Duration of current Exploration Agreements.



August 1985

3 EXPLORATION ACTIVITY

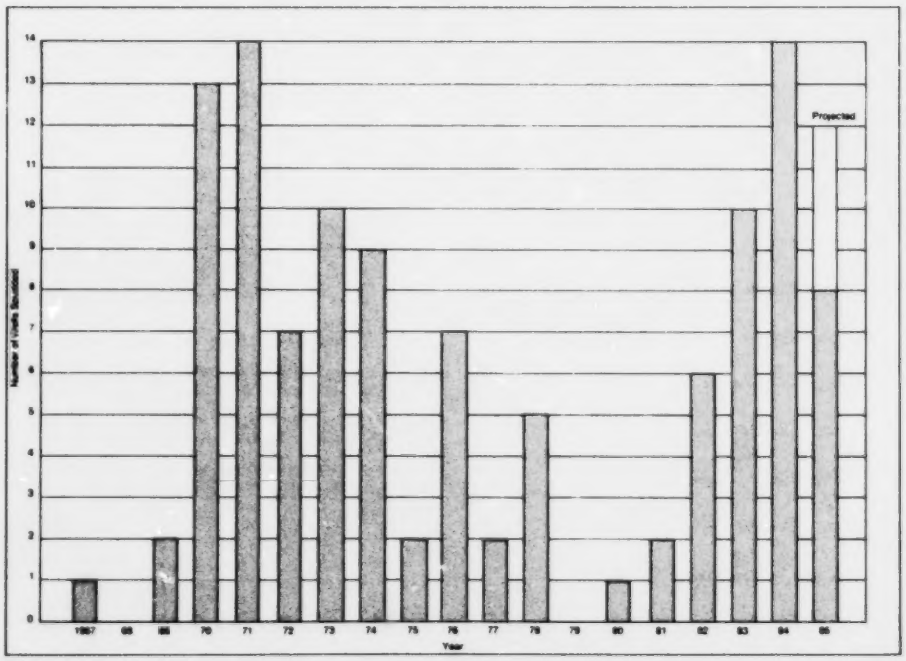
Major changes occurred during 1984 and 1985 in both the focus of petroleum exploration and the number and makeup of companies actively seeking oil and gas in Nova Scotia's offshore region. Exploration activity remained strong throughout the period and special exploration efforts focused on the delineation of several discoveries in an attempt to evaluate their potential for commercial production.

Fourteen wells were started in 1984, the largest number of wells spudded in any one year with the exception of 1971 when 14 wells were also started. In the first six months of 1985, another eight wells were spudded (Figure 9). More than 50 per cent of these 22 wells are within a 50 mile (80 km) radius of Sable Island, where drilling activity has traditionally been concentrated. Exploration companies acquired 13,414 miles (21 587 km) of seismic data on the Scotian Shelf and Slope in 1984. By mid-June 1985, approximately 6,835 miles (11 000 km) of new seismic data had been shot (Figure 10).

SHELL

Shell and partners were one of the most active exploration groups, spudding four wildcat and four delineation wells in the 12 month period to June 1985. Two gas discoveries made by Shell (Alma in mid-1984 and Glenelg in late 1983) were delineated by three wells. Both structures require further evaluation to determine whether gas reserves are sufficient to justify development.

9 *Drilling activity offshore Nova Scotia, 1967-1985.*



With the five wells (South Debarres O-76, Glenelg E-58A, Glenelg H-38, Alma K-85 and Peskowesk A-99) spudded during the last half of 1984 and the first half of 1985, Shell has now spudded 12 wells offshore Nova Scotia in the "first round" of exploration agreements. Of these 12 wells, seven are considered a part of Shell's 15 well commitment under its exploration agreements. If the additional commitment wells are not drilled, some of the exploration agreements will be surrendered to the Crown. Shell and partners are currently drilling two wildcat wells, Kegeshook G-67 and Merigomish C-52 on their Shelf lands in the Sable Island area. Two semi-submersible drilling rigs, the SDS Vinland and the Sedco 709 worked for Shell until October 1984 and April 1985, respectively. Shell contracted the semi-submersible Sedco 706 in late April 1985 to continue drilling and in June 1985, Shell contracted the jack-up, Glomar Labrador 1, to drill on its Shelf lands.

MOBIL

Mobil and partners remain active spudding three wildcat and two relief wells in addition to one appraisal well on their Sable Island block during the past year. West Venture C-62, completed on March 23, 1985, encountered significant gas and was the first well under the two agreements negotiated on the Sable Island block. These agreements call for five wells to be drilled over two and one-half years.

The West Venture N-91 well (second commitment well) was started in April 1984. Difficulties in September 1985 prevented it from being completed. Well control problems kept the jack-up Zapata Scotian at the site until July 1985. The well control problem occurred on September 20, 1984, when a sudden influx of high pressure gas into the wellbore caused the crew of the Zapata Scotian to shear the drillpipe, shut in the well and evacuate the rig. When the drillpipe was sheared, the pipe dropped approximately 1,640 feet (500 m) to the bottom of the well. The subsequent buildup of extremely high pressures from the lower porous reservoirs burst the casing at approximately 2,723 feet (830 m).

10 Offshore statistical summary, 1981-85.

		1981	1982	1983	1984	1985[1]
Exploration Agreements Concluded (Based on Effective Dates)		0	26	6	3	2
Miles of Seismic Shot		11,662	18,909	22,960	13,414	6,835
Wells Spudded		2	6	10	14	8
Wells Completed		1	3	10	13	9
Total Footage Drilled		26,227	93,648	178,038	233,090	N/A
Rigs Active[2]		2	3	6	7	6
Dollars spent by Operators (millions)	Seismic	17.4	37.1	48.5	23.2	N/A
	Drilling	65.0	220.0	564.4	594.7	N/A

[1]To mid-June

[2]Average number of rigs working during the year

Mobil simultaneously pursued two strategies in attempting to resolve the problem: drilling of a relief well and retrieval of the drillpipe to allow the pumping of weighted drilling fluids, or mud, to stop the escape of gas into the sub-sea formations.

An early relief well was abandoned due to mechanical problems in the shallow section of the well. Mobil et al West Venture N-01, a second relief well, was spudded on January 20, and had reached 60 per cent of its targeted total depth when the West Venture N-91 was brought under control.

Mobil was able to bring the well under control by attaching a new section of drillpipe to the top of the dropped pipe and verifying the integrity of the drillpipe to a depth of more than 13,123 feet (4 000 m). Cement was then pumped to this depth to seal the well.

Mobil contracted the Rowan Juneau jack-up rig to drill Thebaud I-93 (third commitment well) in April 1985 to further evaluate the Thebaud structure. This structure is located 4 miles (6 km) southwest of the western tip of Sable Island. Two wells have previously been drilled on Thebaud. The first discovery well (P-84) was drilled to 13,501 feet (4 115 m), finishing in October 1972. The combined flow rate for the zones tested was three million cubic feet per day (84 951 m^3/d) of gas and 101 barrels per day (16 m^3/d) of condensate. The second well, (I-94), 0.6 mile (1 km) southwest of P-84, was completed in May 1978 to 12,999 feet (3 962 m). The combined flow rate for the zones tested was 13.7 million cubic feet per day (387 984 m^3/d) of gas and 402 barrels per day (64 m^3/d) of condensate. The I-94 well did not encounter the same pay section uphole as did P-84, but several significant gas zones were encountered below 11,811 feet (3 600 m) and correlated with the discovery well.

The fourth commitment well, West Olympia 0-51 was spudded on June 23, 1985, and is being drilled to evaluate a structure to the west of the Olympia A-12 discovery well. Completion is expected in December 1985.

The jackup rigs, Rowan Juneau and Zapata Scotian remained dedicated to Mobil's drilling program during the past year. The Rowan Gorilla 3 jackup, built in Vicksburg, Mississippi, arrived on the Scotian Shelf early 1985 and immediately began work for Mobil on the N-01 relief well. The Rowan Gorilla 1 was recently contracted by Mobil and is drilling on Mobil's Sable Island block. Mobil also contracted the semi-submersible accommodation and service platform, the Safe Gothia, to assist in well control operations at West Venture N-91.

PETRO-CANADA
Petro-Canada and partners completed one well and started another well in 1984-85: Albatross B-13 (March 28, 1985) and Shelburne G-29 (temporarily suspended at 5,302 feet (1 616 m). The well is scheduled to be completed in late 1985 or early 1986.

HUSKY/BOW VALLEY
Husky and Bow Valley completed their work commitments during the past year through "farm-in" agreements and have now earned an interest on the Mohican, Chebucto, South Sable and East Banquereau blocks by shooting the required seismic programs and drilling five wells: Glooscap C-63 (January 1984), Chebucto K-90 (August 1984), South Griffin J-13 (August 1984), Evangeline H-98 (November 1984) and Hesper P-52 (May 1985). The Bow Drill 2 and the Bow Drill 3 semi-submersible drilling units remained busy until mid to late 1984. The jack-up rig, the Rowan Gorilla 1, was contracted and completed two wells in their drilling program during 1984 and the first five months of 1985: South Griffin J-13 in August 1984 and Hesper P-52 in May 1985.

Husky and Bow Valley will continue to explore offshore Nova Scotia for the next several years. Their current interest is a parcel of land adjacent to their Chebucto K-90 discovery well. A four-year exploration agreement commits the Husky/Bow Valley consortium to 963 miles (1 550 km) of seismic survey and three wells. The third well is optional, and if not drilled, the term of the agreement will be decreased by one year. The results of the Chebucto K-90 discovery well (see Section 4) remained confidential for nine months until the consortium led by Husky (Bow Valley is one of the three other partners) bid on and secured the parcel of land.

HOME OIL
Home Oil and partners have completed their work commitments on the East Sable Block by drilling two wells, the Louisbourg J-47 well, completed in October 1984, and the Citadel H-52, completed in May 1985.

The jack-up rig, Glomar Labrador 1 remained at work on the Louisbourg and Citadel wells during this period except for one short interruption when the rig was subcontracted by Mobil to drill a relief well to West Venture N-91.

CANTERRA
Canterra and partners became active during the late spring of 1985 acquiring seismic data on their South Sable exploration agreement awarded to this consortium in April 1985. This three-year exploration agreement requires Canterra to conduct 311 miles (500 km) of seismic and drill a commitment well prior to May 1, 1987.

4 EXPLORATION AND DELINEATION DRILLING RESULTS

The number of wells completed offshore Nova Scotia reached the 100 mark in late 1985 with the completion of the Glenelg H-38 delineation well (Figure 11). By June 1985, the number of wells completed since Mobil began the first well on Sable in 1967 stood at 107.

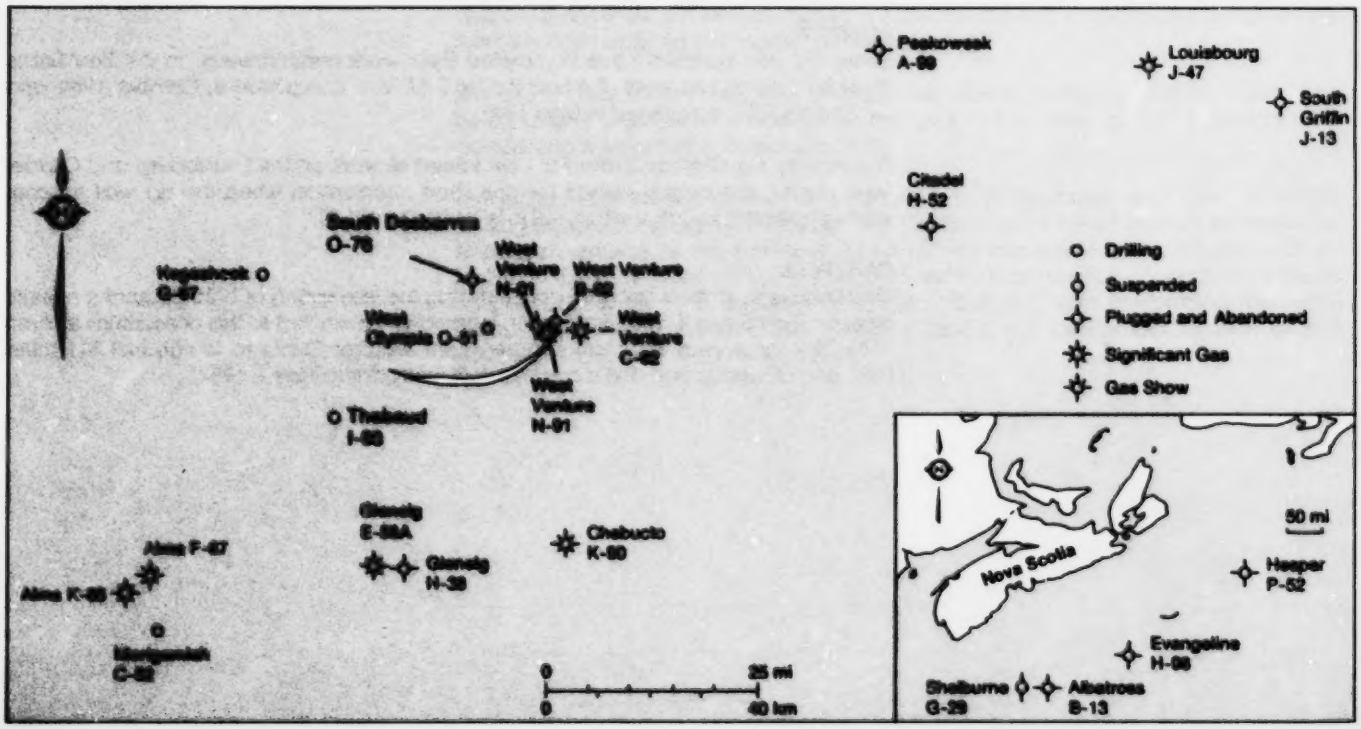
Exploration drilling offshore Nova Scotia has traditionally achieved a high rate of success with more than 20 per cent of wildcat wells producing significant gas discoveries. Greater understanding of offshore geology as more wells were drilled and improvements in geophysical technology have increased the success rate of wildcat wells in recent years. Since the drilling of the Venture D-23 discovery well in 1979, 37 per cent of wildcat wells drilled offshore have encountered significant gas.

Fifteen significant natural gas discoveries and three significant oil bearing structures have been recorded to date (Figures 12,13).

Three natural gas discoveries and one gas show were made during the past year while two previously discovered structures were successfully delineated. The three new discoveries (two by Mobil and one by Husky/Bow Valley) and the gas show (by Home Oil) were made on previously unexplored structures.

11 1984-85 Offshore well locations.

12 Summary of tests — significant hydrocarbon discoveries. ▶



					GAS		OIL	
Oil	**No. of Wells Drilled into Each Structure**	**Key Wells**	**Year Drilled**	**Total Depth (ft.)**	**Maximum Single Test Rate (MMCF/d)**	**Combined Test Rate (MMCF/d)**	**Maximum Test Rate (BBLS/d)**	**Combined Test Rate (BBLS/d)**
Cohasset	2	D-42	1973	14,521	071	096	1,050	1,565
Primrose	3	N-50	1972	5,622	17.4	50.5	350	650
West Sable	8	O-47	1972	13,775	5.8	6.1	Traces of Oil	
		E-48	1971	11,820	10.6	64.0	2,880	4,080
Gas and Condensate							**Condensate Combined Test Rate**	
							(BBLS/d)	**(BBLS/MMCF)**
West Venture	1	N-91	1984	18,200	*	*	*	*
West Venture	1	C-62	1984	18,117	33.5	33.5	160	4.8
Chebucto	1	K-90	1984	17,175	22.1	44.5	324	7.3
Alma	2	K-85	1985	11,817	30.2	90.2	827	9.2
		F-67	1984	16,581	29.8	61.2	709	11.6
Uniacke	1	G-72	1984	18,816	20.6	26.6	150	5.6
Glenelg	3	E-58A	1984	13,753	23.4[1]	34.4[1]	387[1]	11.2[1]
		J-48	1983	16,890	30.0	92.4	640	6.9
Arcadia	1	J-16	1983	19,701	14.1	25.0	119	4.8
Banquereau	1	C-21	1982	16,375	19.9	20.7	100	4.8
South Venture	1	O-59	1982	20,261	18.2	93.4	3,403	36.4
Olympia	1	A-12	1982	19,896	17.5	56.0	845	15.1
Venture	5	H-22	1984	19,501	38.0	68.3	781	11.5
		B-52	1983	19,554	49.7	63.1	207	3.3
		B-43	1982	19,268	15.0	95.0	2,100	22.1
		B-13	1981	17,600	18.6	81.2	1,158	14.3
		D-23	1979	16,200	22.6	44.4	548	12.3
Intrepid	1	L-80	1974	13,651	7.6	18.1	191	10.5
Citnalta	1	I-59	1974	15,010	11.0	19.6	1,331	68.0
Thebaud	2	I-94	1978	12,997	13.7	13.7	404	29.5
		P-84	1972	13,500	10.6	30.0	103	3.4
Onondaga	4	E-84	1969	13,085	o	o	o	o

NOTE MMCF/d — million cubic ft per day

* Well control problems prevented tests from being run in this well

° Not flow tested but mechanical logs included a good reservoir

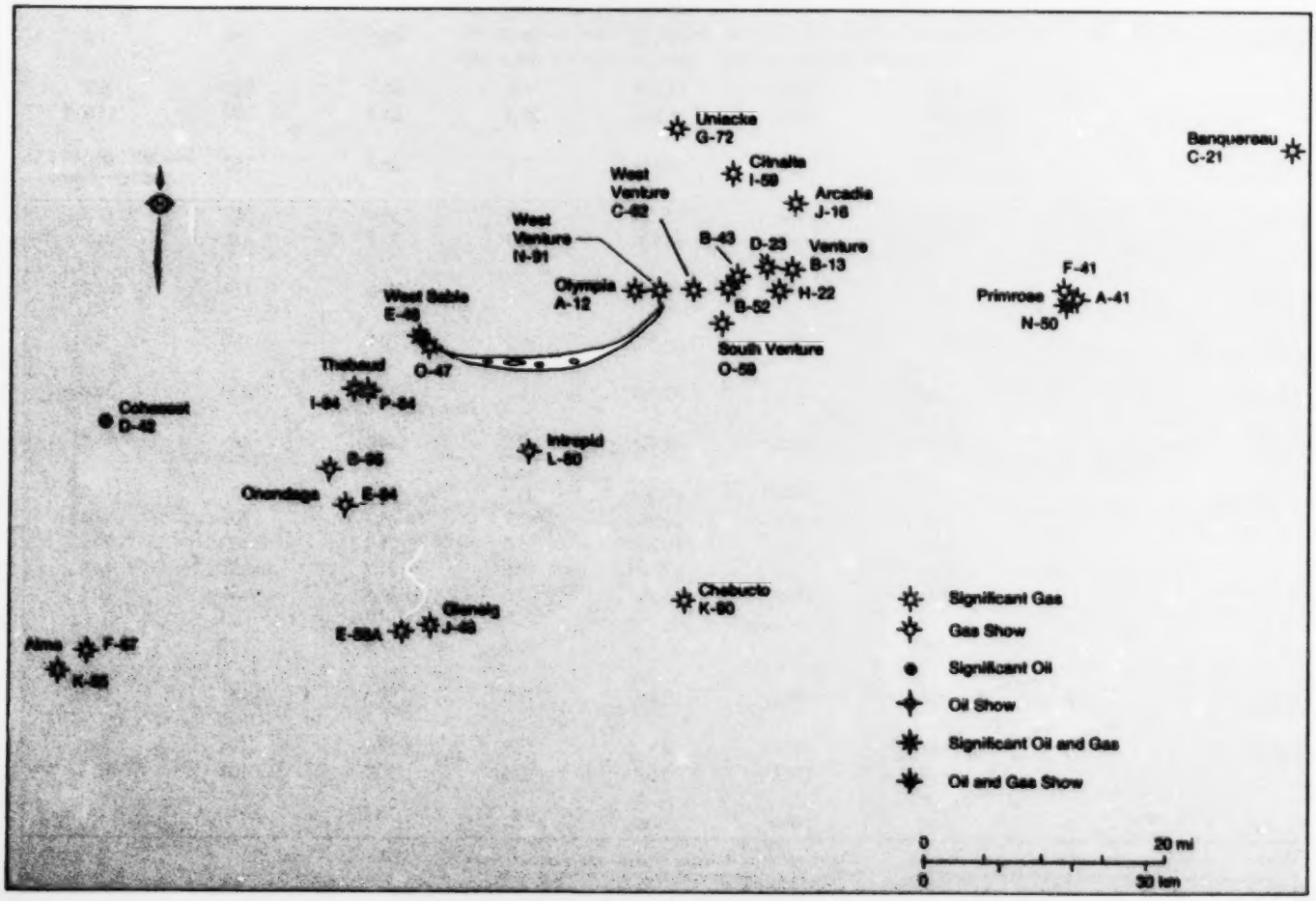
[1] These initial rates were tested but declined during tests

WEST VENTURE

West Venture C-62 was drilled for Mobil and partners by the Rowan Juneau jack-up rig to a depth of 18,117 feet (5 522 m) to test a separate geological structure between the Venture field and the Olympia A-12 gas discovery. The West Venture structure is located six miles (9 km) southwest of the Venture D-23 gas field discovery well. C-62, completed in March 1985, flowed at a combined rate of 33.5 million cubic feet per day (948 619 m^3/d) of gas and 160 barrels per day (25.2 m^3/d) of condensate from a two-metre test interval at 15,554 feet (4 741 m).

A second geological structure was also identified between the Venture field and the Olympia A-12 gas discovery and a second well, West Venture N-91, was drilled four miles (6.4 km) southeast of the West Venture C-62 well. This well reached a total depth of 18,200 feet (5 547 m) and, just prior to production testing, encountered well control problems. Since this well was never tested the precise amounts of hydrocarbons discovered by the well were not determined. But information from cores, logs and the fact that gas entered the well prior to production testing confirms the existence of gas bearing formations in this structure.

13 Location of significant hydrocarbon discoveries.



CHEBUCTO

Husky/Bow Valley's Chebucto K-90 discovery well recorded the highest flow rates of new discoveries made during the past year. Drilled to a total depth of 17,175 feet (5 235 m) by the Bow Drill 2, Chebucto K-90 is located 27 miles (43 km) southwest of the Venture field. This well, completed in August 1984, had an aggregate flow of 44.5 million cubic feet per day (1 250 000 m^3/d) of gas and 324 barrels per day (51.5 m^3/d) of condensate over eight different zones. Appraisal drilling on this structure is required to evaluate the commercial viability of the discovery. The first delineation well on this structure is expected to be spudded at the end of 1985.

LOUISBOURG

The Louisbourg J-47 well was drilled for Home Oil and partners by the Glomar Labrador 1 to a total depth of 19,826 feet (6 043 m). Louisbourg J-47 is situated 71 miles (114 km) northeast of the eastern tip of Sable Island and was completed in October 1985. One zone at the 18,983 foot (5 786 m) level tested gas at an estimated flow rate of five million cubic feet per day (140 000 m^3/d). Louisbourg J-47 was abandoned as a well that encountered some gas but of a non-commercial nature.

GLENELG STRUCTURE

Two delineation wells were drilled during the past year to evaluate the Glenelg structure, first identified in November 1983 by the Glenelg J-48 discovery well. The first delineation well, Glenelg E-58A, situated two miles (3 km) southwest of the discovery well was drilled by deviating within an earlier well (Glenelg E-58) which was abandoned in August 1984 without testing. The Glenelg E-58A well was drilled to a depth of 13,753 feet (4 192 m) and two zones tested gas at initial rates of 23.4 and 11.0 million cubic feet per day (659 000 and 310 000 m^3/d). Flow rates declined during well testing.

A second delineation well, Glenelg H-38, was drilled 1.5 miles (2.4 km) southeast of the Glenelg J-48 discovery well, and abandoned in January 1985. The thickness and reservoir quality of gas zones encountered did not warrant production testing. Further delineation is required to fully evaluate the Glenelg structure.

ALMA STRUCTURE

The first delineation well was drilled in 1985 to appraise the Alma structure, first identified in July 1984 by the Alma F-67 discovery well. The Alma K-85 delineation well, located three miles (5 km) southwest of the discovery well was drilled to 11,817 feet (3 602 m) and tested gas from five zones at rates varying from 30.2 to 9.6 million cubic feet per day (851 000 to 269 000 m^3/d). Condensate was recovered from four zones at rates up to 369 barrels per day (58.7 m^3/d). Further drilling will be required in the Alma structure to determine whether gas reserves are sufficient to justify development.

These new discoveries increase the potential for additional gas production offshore Nova Scotia.

The most recent estimates (1984) by the Canada Oil and Gas Lands Administration (COGLA) for offshore Nova Scotia show that 4.3 trillion cubic feet (122.6 billion cubic meters) of gas has been discovered as well as 105 million barrels (16.7 million cubic metres) of oil and condensate. These revised estimates resulted from a comprehensive review by COGLA of all discoveries on the Scotian Shelf completed during the winter of 1984-85.

VENTURE PROJECT

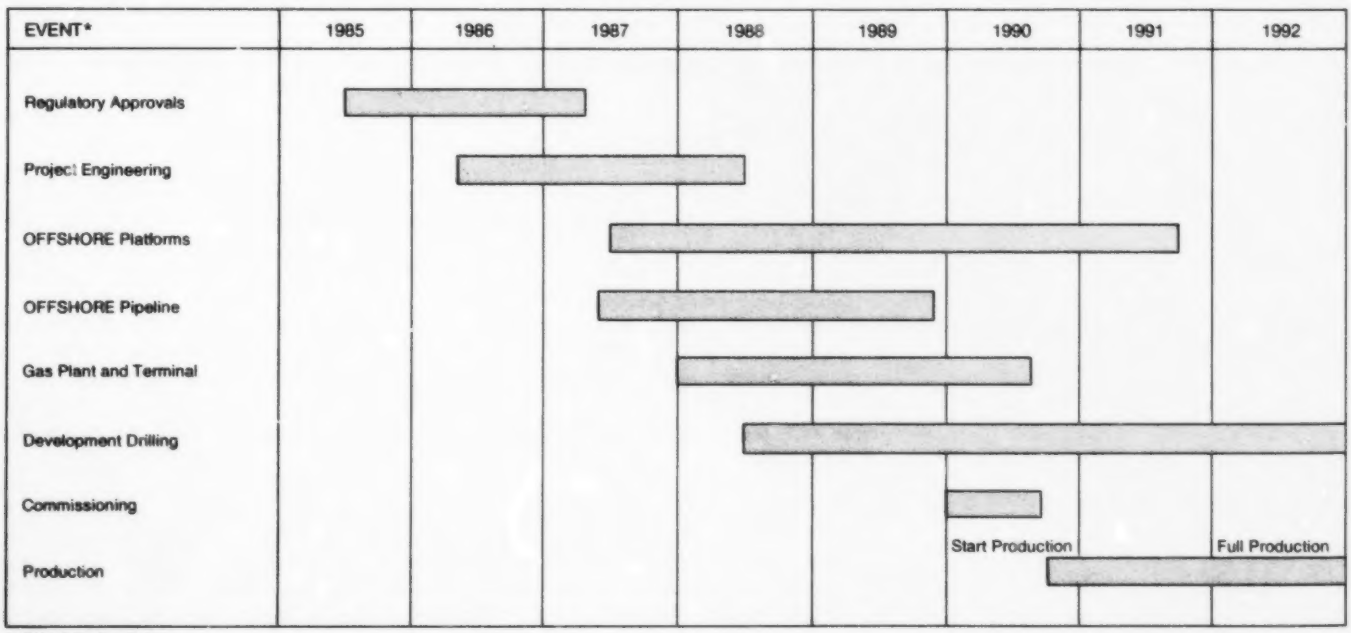
1 ACTIVITY AND UPDATE

The development of Nova Scotia's offshore energy resources moved forward in July 1985 with the filing of an application to the National Energy Board to export 300 million cubic feet per day (8.5 million m^3/d) of sales gas to the Northeastern United States. The application was filed jointly by the four major partners in the Venture project, Mobil Oil Canada Ltd. (44.24%), Petro-Canada Incorporated (30%), Texaco Canada Resources Limited (13.52%) and Nova Scotia Resources Limited (10%). Canterra Energy Ltd. is a new participant through its recent acquisition of the Scotian Shelf interests of Texas Eastern Exploration of Canada Ltd. (2.24%) and will be applying to the National Energy Board later for authorization to export its share of the Venture gas.

The application for permission to export volumes allocated to the U.S. market is the first in a series of regulatory procedures the project proponents face as they move toward development of Nova Scotia's offshore energy sources. Permission to import the gas must be obtained from the Economic Regulatory Administration (ERA) in the United States. Approval for the production and transmission facilities must also be obtained in Canada and permission to build and operate the transmission line in the United States must be granted by the Federal Energy Regulatory Commission (FERC).

In their export application, the Venture Project producers estimate it will take at least two years to obtain the required regulatory approvals to get the project underway, allowing a start on construction in late 1987 and the first production in late 1990 (Figure 14).

14 Venture Project schedule.



* Schedule of events as outlined by producers in gas export application.

Both the Nova Scotia government and the Venture Project producers have asked the National Energy Board for the Venture hearing to be held separately and not included in a wider ranging omnibus hearing into all Canadian gas exports announced by the Board to begin in late 1985. The decision by the Board on this issue will have a significant effect on the timetable for a hearing and decision on the Venture Export Application.

The Government of Nova Scotia began an extensive review of the project in mid-summer and will be an official intervenor before the Board in support of the application.

The producer's application contains substantial documentation on gas sales arrangements with the United States purchasers of Venture gas — New Tenn Company and NESP Supply Corporation.

Exports at an average of 300 million cubic feet per day (8.5 million m^3/d) of sales gas are planned during the peak years of the 20-year project. Approximately 20 million cubic feet per day (566 340 m^3/d) will be available to serve the domestic market in the Maritimes. The Venture gas project partners are confident other discoveries in the Sable Island area will be developed as Venture production drops to permit sales gas volumes to be maintained at the 300 million cubic feet per day (8.5 million m^3/d) level and beyond. Fourteen gas discoveries have been made to date within a 50 mile (80 km) radius of Sable Island.

As well as information on gas sales agreements and the overall scope and design of the project, the export application also contains separate volumes dealing with surplus determination, domestic markets, export markets, project economics, and public interest information. Documentation of gas supply is to be provided separately.

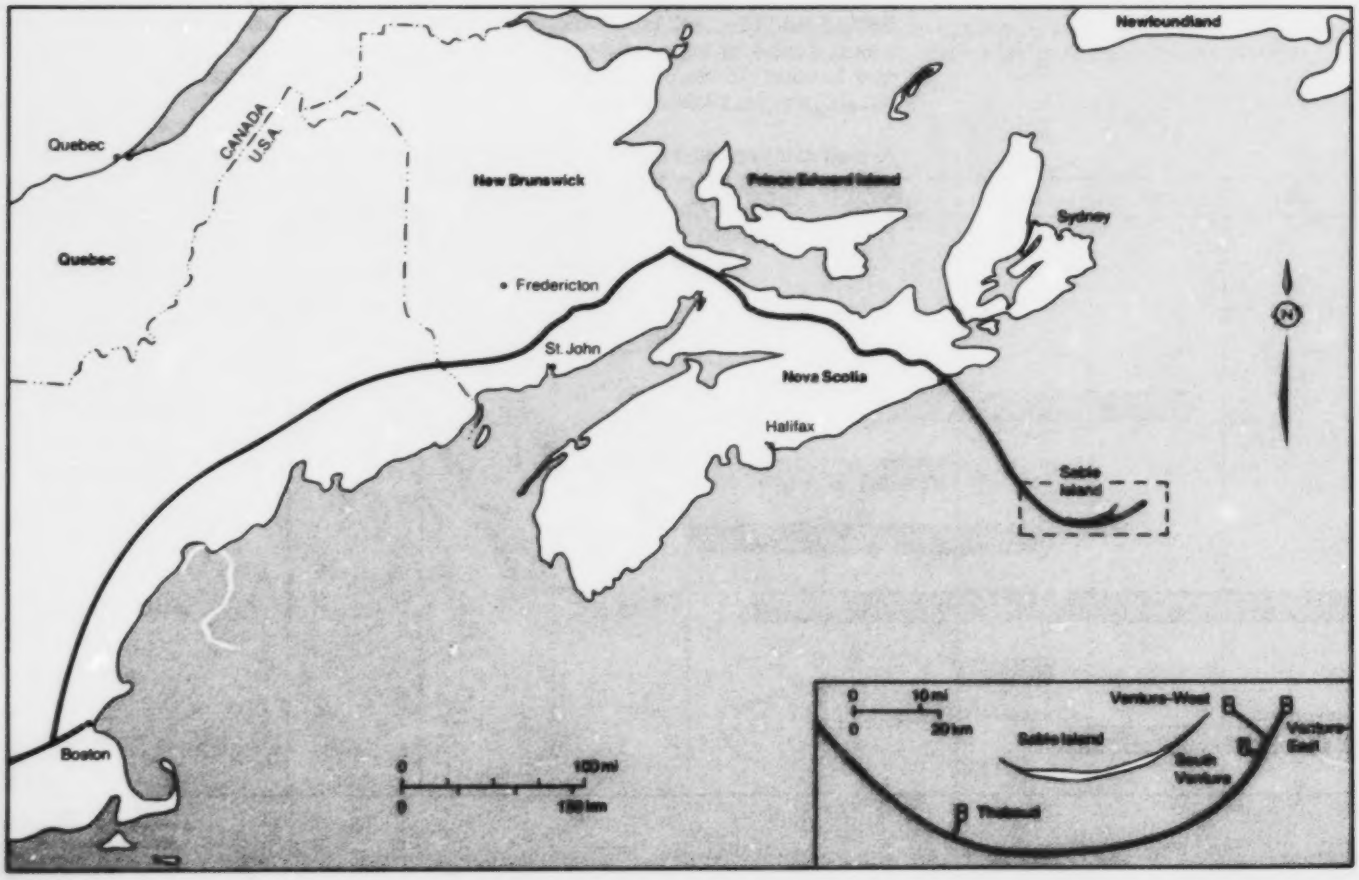
2 OFFSHORE AND ONSHORE FACILITIES

Natural gas for the Venture Gas Project is expected to come from three gas discoveries near Sable Island, about 130 miles (209 km) from the coast of mainland Nova Scotia (Figure 15). Drilling as of April 1, 1985, has identified 2.36 trillion cubic feet (66.8 billion m^3) of proved and probable reserves of natural gas in the Venture (1.55 tcf), Thebaud (590 bcf) and South Venture (220 bcf) gas discoveries. The proved and probable category used in the producers estimate is equivalent to the proved category as used by the National Energy Board.

The Venture partners estimate the cost of developing the project at $2.45 billion (1984 dollars) which would make it the largest development in Nova Scotia's history. This cost includes the undersea pipeline connecting the gas production equipment to mainland Nova Scotia.

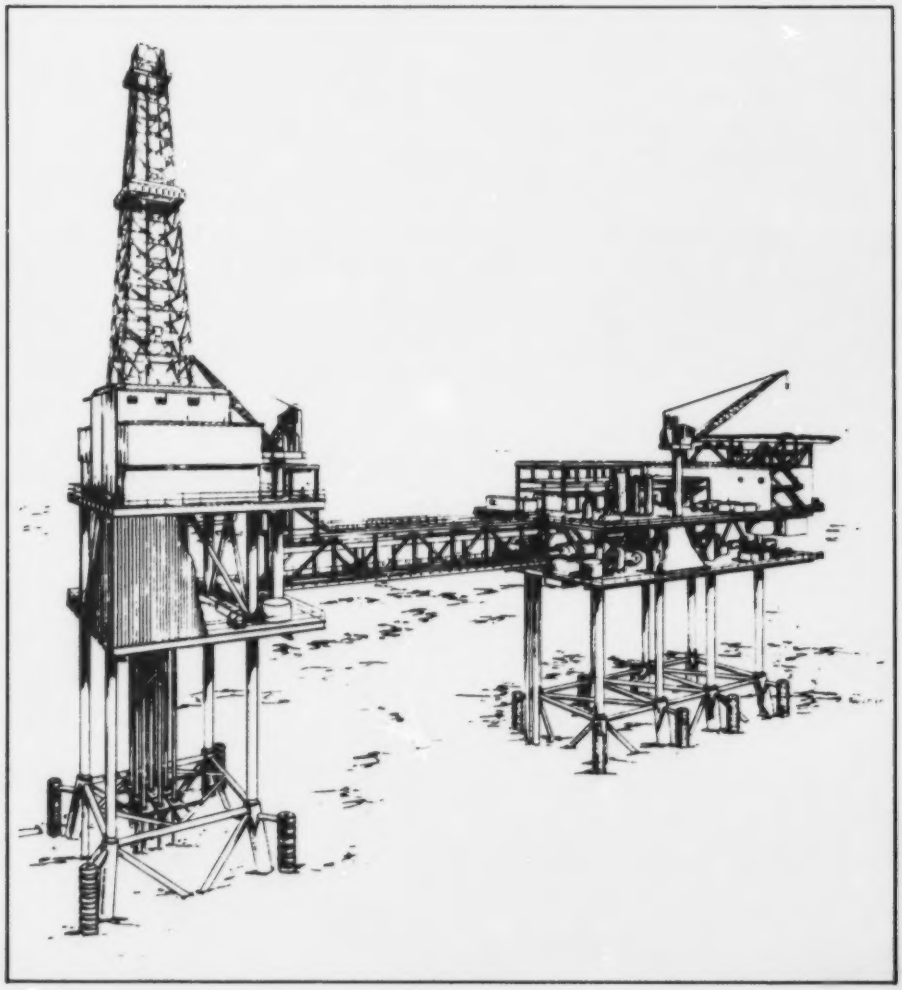
In their export application, the producers outlined the facilities necessary to develop Nova Scotia's first offshore gas project. The facilities design is considered preliminary at this point and will be the subject of additional study before a formal facilities application is filed by the project partners.

15 Venture, Thebaud and South Venture fields and pipeline route.



The project as outlined by the Venture partners contains four production platforms, costing $604 million to build; two on the Venture field and one in each of the Thebaud and South Venture discoveries. On Thebaud and Venture, production complexes consisting of two adjoining platforms are planned (Figure 16). The second Venture production platform and the South Venture platforms are envisioned as smaller integrated platforms. Development drilling at an estimated cost of $822 million will be required to produce the anticipated volumes of gas. The offshore processing will primarily consist of dehydration and sand removal prior to delivery of the gas to the offshore pipeline. Compressor facilities, estimated by the producers at a cost of $171 million, will be added in later years to maintain pipeline pressure as the natural reservoir pressure declines.

16 Conceptual View of Venture-East Complex



Mobil Oil Canada Limited

VENTURE PROJECT

Gas and natural gas liquids will be transported from the offshore complexes to mainland Nova Scotia in a 180 mile (290 km) long, 28" (711 mm) diameter pipeline. The producers estimate the cost at $526 million. The proposed landfall site of the pipeline is in the Country Harbour area of Guysborough County in Nova Scotia's Eastern Shore. Other sites are also being evaluated by the producers.

The landfall facilities will also include a slug catcher to receive and separate the slugs of liquid that form in the two-phase pipeline.

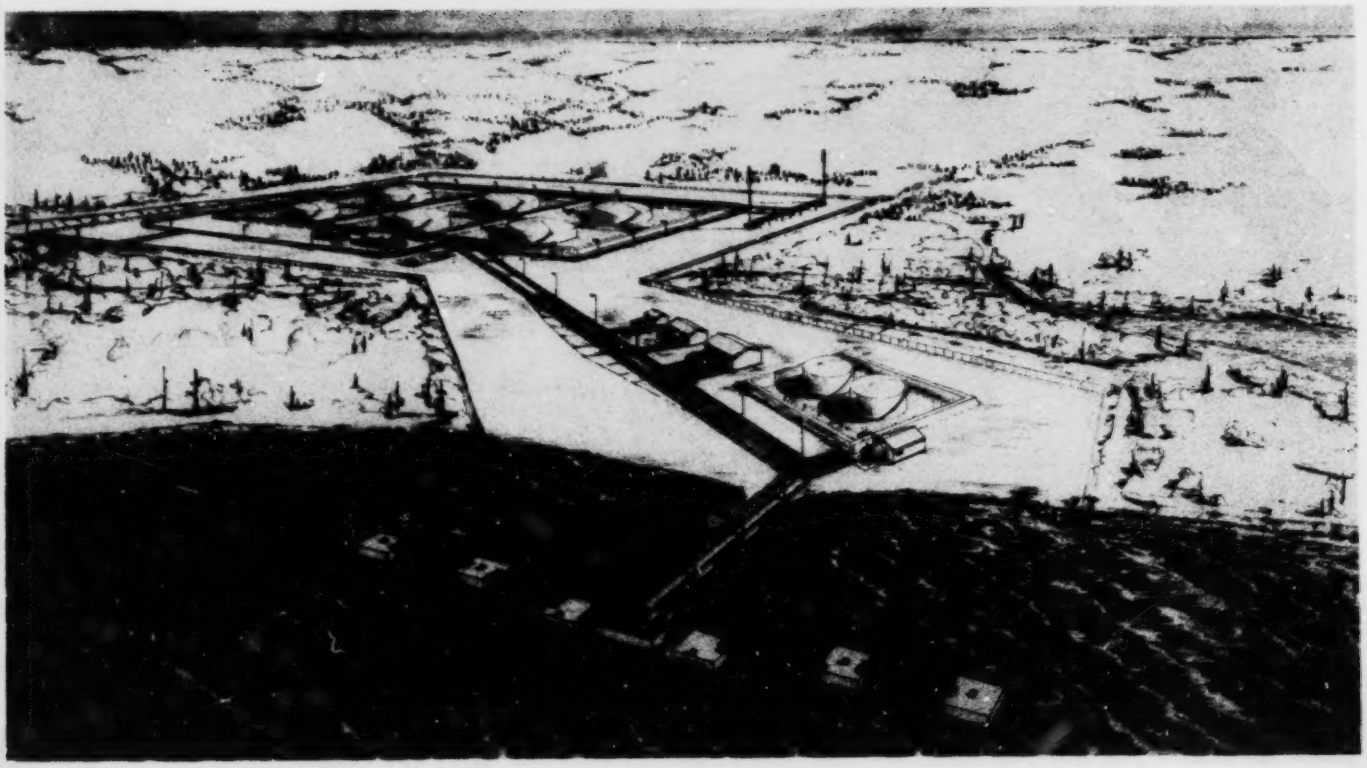
17 Conceptual View of Gas Processing Facility.

Mobil Oil Canada Limited

Once onshore, the gas will be processed at a processing facility (estimated cost $323 million) and yield "sales gas" and natural gas liquids (Figure 17). These liquids may be further processed by fractionation into saleable liquid products — propane, butane and pentanes plus. The liquids would then be stored onshore and transported to markets in eastern Canada and the United States by marine tanker (Figure 18).

In addition to the estimated $2.45 billion needed for the producing and processing facilities, a 24-inch (610 mm), 334 mile (537 km) gas transmission line through Nova Scotia and New Brunswick to the United States border will be constructed to deliver sales gas to markets in Nova Scotia and New Brunswick and the New England and mid-Atlantic states. The cost of this pipeline system is estimated at $450 million. United States gas purchasers will be responsible for constructing a transmission line from the border to connect with existing gas transmission pipelines in the Boston, Massachusetts area.

18 Conceptual View of Marine Terminal.



Mobil Oil Canada Limited

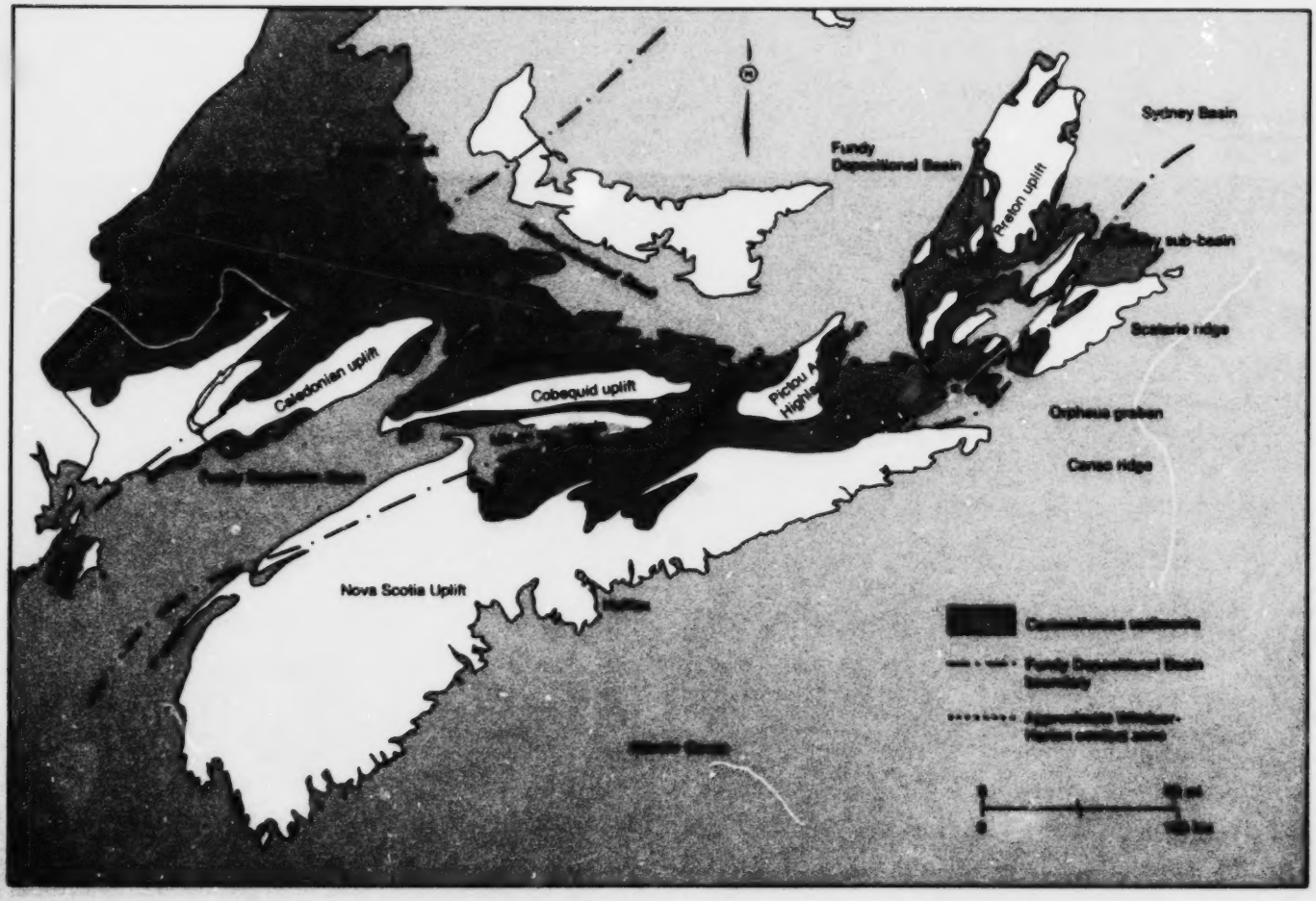
ONSHORE

1 GEOLOGICAL SETTING

The existence of widely scattered traces of oil in the form of seeps at Lake Ainslie, Inverness County, and asphaltic material in the marine Windsor Group with pyrobitumen in the non-marine Horton, Stellarton and Pictou Groups known since the 1880s has prompted various exploration programs.

The onshore search for petroleum has been primarily concentrated on Carboniferous aged rocks. Carboniferous aged rocks are found in several sedimentary basins, including the Minas Basin, Cumberland Basin, Stellarton Gap-Pictou Basin, Antigonish Basin and Inverness-Mabou Sub-basin (Figures 19,20). Carboniferous sediments were deposited in narrow elongated basins bordered by uplands in central and southern New Brunswick to the northwest and by an uplifted region of pre-Carboniferous rocks in Nova Scotia to the south. The first sediments were deposited in the Fundy Depositional Basin and came from both bordering areas. These sediments form the Horton Group, and consist of red to grey sandstone conglomerate, siltstone, and shales.

19 Carboniferous Age sediments onshore Nova Scotia.



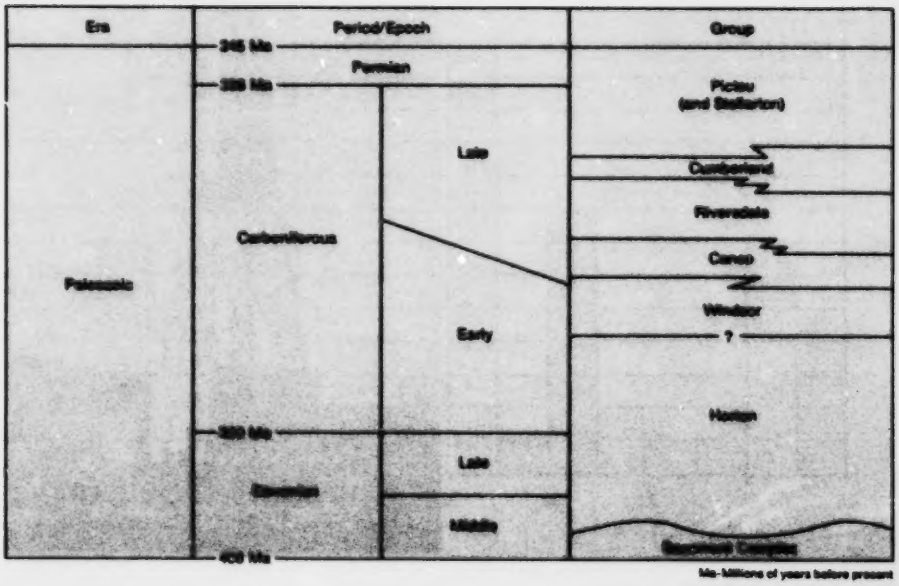
A commercial oil and gas field in the Province of New Brunswick is producing from a section of the regional Carboniferous basin, which extends through much of Nova Scotia. The Albert Formation of the Horton Group at Stony Creek in the Moncton sub-basin has produced 28 billion cubic feet (793 million m^3) of gas and 800,000 barrels (127 192 m^3) of oil since its discovery in 1909 (figures to 1979). Gas production was 90 million cubic feet (2.5 million m^3) and oil production 4,750 barrels (755 m^3) in 1979.

Overlying the Horton Group is the Windsor Group which consists generally of thick members of massive to poorly bedded red and greenish-grey mottled siltstone, shale and sandstone interbedded with gypsum, anhydrite, shale and thin tabular sequences of limestone and dolomite.

Deformation by folding and faulting accompanied by volcanic activity during or after deposition of evaporites, produced salt flowage in some of the basins and accounts for the thick accumulations in salt domes, diapirs and ridges. In between, carbonates, clastics and minor evaporites were deposited in marine, shallow marine and continental environments.

The Canso Group lies above the Windsor Group and is mainly an offlap sequence containing thinly laminated red and grey shale sandstone and minor limestone.

20 Geological time scale onshore Nova Scotia



During deposition of Riversdale Group rocks, thick deposits of coarse clastics (red and grey sandstone and shale), non-marine red and grey sandstone, siltstone, shale and coal were deposited.

The Cumberland Group contains appreciable amounts of coal. The Group lies unconformably on other Carboniferous and older rocks and consists of non-marine red and grey conglomerate, sandstone, shale and mineable coal seams.

When the upper part of the Cumberland Group was being deposited, non-marine fluvial and fluvio-lacustrine red and grey sandstones, shales and minor conglomerates of the Pictou Group were deposited in other areas. These Pictou sediments unconformably overlaid older Paleozoic rocks and onlapped the older metamorphic rocks of the basement. Western Cape Breton Island, Sydney Basin, Stellarton Gap and Minto Uplift were swamp areas where thick coal deposits accumulated.

In the Last Carboniferous, swamps flourished. Pyrobituminous material, in part of falgal origin, formed small amounts of gas and minor oil staining reported in the various rock units are interbedded sandstones and may have originated from the decomposition of plant material.

The main potential for hydrocarbons in the Carboniferous rocks depends on good local porosity, the migration of hydrocarbons from the underlying Horton and Windsor Group rocks, and hydrocarbons in association with coal bearing horizons. Movement of Windsor Group salt has probably produced a variety of traps in post-Windsor sediments flanking and overlying high relief diapirs in some areas.

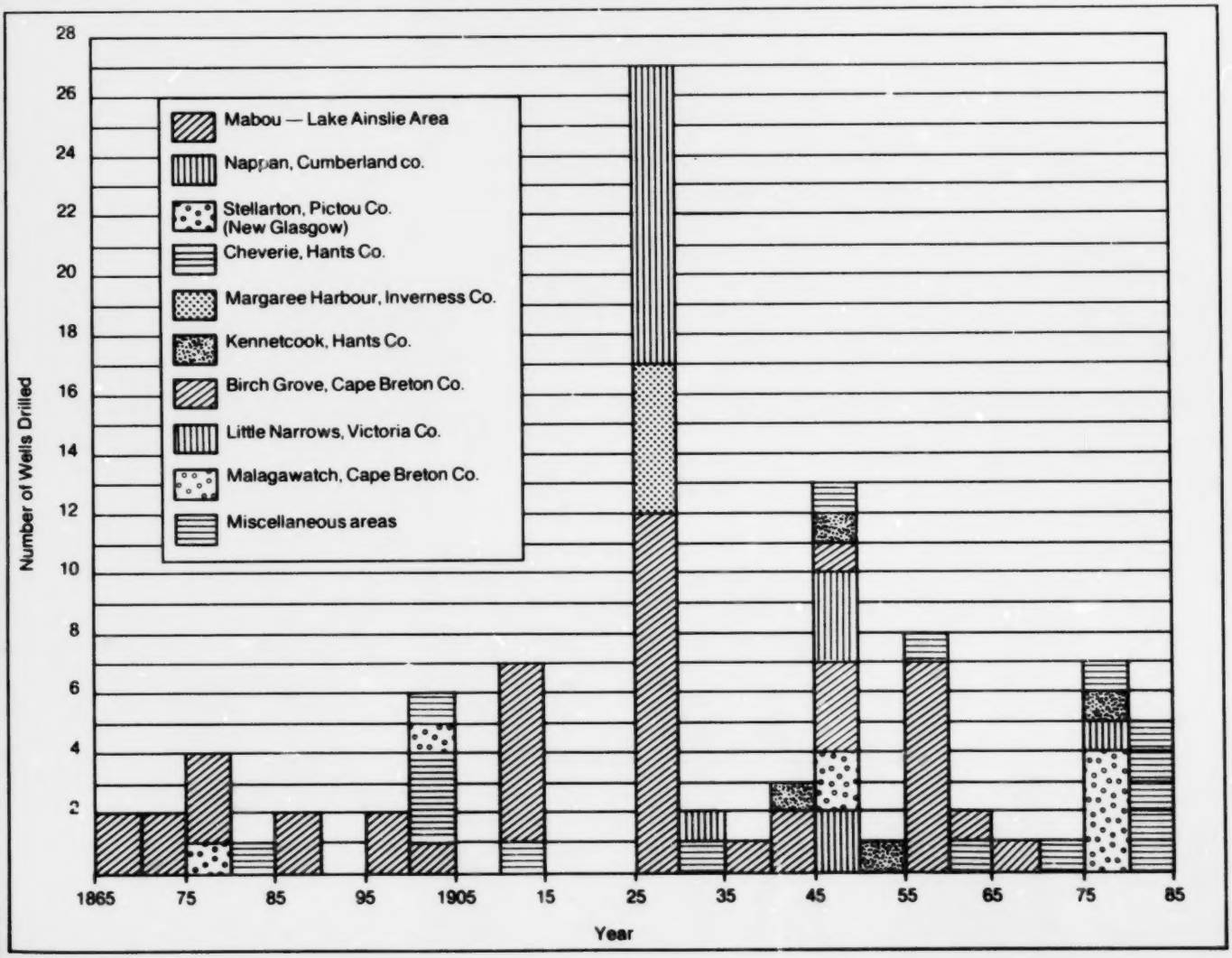
Drilling for petroleum in Mabou, 1944, by Lion Oil Refining Company

2 EXPLORATION ACTIVITY

Exploration for hydrocarbons in the province began in the mid-1800s when surface seeps, oil-filled cavities in gypsum, and petroliferous sandstones were discovered in several counties. Various drilling programs produced wells that encountered shows of subsurface natural gas and oil. None of the discoveries has been commercial although there is a report of approximately 100 gallons of oil from a hole drilled to a depth of over 900 feet (274 m) near MacIsaac Point at Lake Ainslie in 1874.

Since the first recorded drilling began in 1869, approximately 97 petroleum wells have been drilled onshore (Figure 21). These wells were drilled primarily in the Cumberland and Stellarton Gap — Pictou Basins, Mabou-Lake Ainslie and Bras d'or Lakes areas situated more or less in the northern portion of the province.

21 Petroleum wells drilled onshore Nova Scotia, 1865-1985



ONSHORE

During the past year the highlight of onshore activity was the proclamation of the Petroleum Resources Act in July 1984 which provides a regime defining the rights and obligations for onshore petroleum activity. This Act replaces the Petroleum and Natural Gas Act. Its main elements are:

- Exploration Agreements to be negotiated with industry, setting out the timing, direction, rate of level of exploration activity.
- Production lease granted to operators who have a commercial discovery and have submitted an acceptable development plan.
- Separate provisions from the exploration and development of gas associated with coal seams to facilitate the development of this significant resource.
- Provision for a royalty tailored to the profitability of the project.
- Provision enabling the Governor in Council to determine the intent of employment of Nova Scotians and use of Nova Scotian goods and services for the petroleum activities carried out in the onshore region.

This Act cancelled all previous rights to the offshore region and required all license holders to negotiate an exploration agreement with the Government of Nova Scotia through the Department of Mines and Energy. Prior to this time, 7.1 million acres (2.9 million ha) of exploration licenses, representing about one-half of the province's land mass, were held by a total of seven exploration companies and four private individuals. These former license holders have the first option to negotiate an exploration agreement on their previous licenses.

Discussions have been held between the Department and several exploration companies regarding negotiation of exploration agreements.

APPENDICES

Looking up from the drill floor on the Rowan Gorilla I

APPENDICES

1 LEGISLATION AND ADMINISTRATION

(The following applies to both offshore and onshore regions.)

The Government of Nova Scotia and the Government of Canada jointly manage petroleum related exploration and development in Nova Scotia's offshore region, the Province through the Department of Mines and Energy and the federal government through the Canada Oil and Gas Lands Administration (COGLA) (Figure 22). Both governments enacted legislation in 1984 to govern petroleum-related activity in the offshore region. In addition, the Province amended several statutes pertaining to petroleum-related activity onshore.

The Nova Scotia legislation consists of three offshore and four onshore acts (Figure 23). Several of these statutes legally implement provisions of the Canada-Nova Scotia Agreement on Offshore Resource Management and Revenue Sharing signed in March 1982. The legislation, as a whole, provides a framework for the orderly exploration, development and production of Nova Scotia's offshore and onshore petroleum resources. The seven new and amended statutes of Nova Scotia are summarized in the following paragraphs.

22 Joint resource management of offshore activities

ACTIVITY	JOINT RESOURCE MANAGEMENT
Posting of Lands	Federal and Provincial officials recommend to Board
	Board considers and approves or rejects
Exploration Agreement	
• negotiations	Federal and Provincial officals negotiate with industry
	Board considers and approves or rejects
• activity	Federal and Provincial officials monitor
	COGLA issues approvals on behalf of Board
Development Plan	Federal and Provincial officials review
	Board considers and approves or rejects
Production License	
• negotiations	Federal and provincial officials negotiate with industry
	Board considers and approves or rejects
• activity	Federal and Provincial officials monitor
	COGLA issues approvals on behalf of Board

Board — Canada-Nova Scotia Offshore Oil and Gas Board
COGLA — Canada Oil and Gas Lands Administration

The *Canada-Nova Scotia Offshore Oil and Gas Agreement (Nova Scotia) Act* gives the necessary legislative authority to certain provisions of the Canada-Nova Scotia Agreement and supplements and clarifies certain of the Agreement's provisions, making them more effective. The resource development offshore is jointly administered by Nova Scotia and Canada through the Canada-Nova Scotia Offshore Oil and Gas Board, which became a permanent institution with legal authority under this legislation. This Board directs the activities of the Nova Scotia office of the Canada Oil and Gas Lands Administration, the federal agency designated to administer offshore oil and gas resource activities in Nova Scotia's offshore region.

The *Offshore Oil and Gas Act* defines the rights and obligations under which oil and gas activity offshore Nova Scotia is carried out. The emphasis under this Act is on active oil and gas development with close co-operation between government and industry.

The *Oil and Gas Production and Conservation (Nova Scotia) Act* governs exploration and production operations offshore Nova Scotia. The emphasis under this Act is to ensure that operations are conducted in a safe manner and that hydrocarbon resources are produced efficiently.

The *Petroleum Resources Act* (as amended) defines the rights and obligations under which petroleum activity onshore Nova Scotia is carried out.

The *Energy and Mineral Resources Conservation Act* (as amended) governs the activities related to the exploration, production and transmission of energy onshore emphasizing the safe and efficient performance of these activities.

The *Pipeline Act* (as amended) provides for the regulation of the transmission of oil and gas from the source to the consumer through the Province of Nova Scotia.

The *Gas Utilities Act* (as amended) deals with the establishment of fair prices and rates for gas distributed by the gas utility to the consumers of Nova Scotia.

23 Provincial and federal petroleum legislation.

NOVA SCOTIA		CANADA
ONSHORE	**OFFSHORE**	
	Canada-Nova Scotia Oil and Gas Agreement (Nova Scotia) Act	Canada-Nova Scotia Oil and Gas Agreement Act
Petroleum Resources Act	Offshore Oil and Gas Act	Canada Oil and Gas Act
Energy and Mineral Resources Conservation Act	Oil and Gas Production and Conservation (Nova Scotia) Act	Oil and Gas Production and Conservation Act
Pipeline Act		
Gas Utilities Act		

APPENDICES

These acts summarize the legislative framework under which petroleum exploration and development occurs offshore and onshore. For the offshore region, the Department of Mines and Energy monitors and analyzes exploration and development activity. It advises the Nova Scotia members of the Canada-Nova Scotia Offshore Oil and Gas Board on key issues such as exploration agreements, provisional leases and production licenses and co-operates with COGLA and the oil industry on operational activities such as testing and safety.

For onshore petroleum resources, the Department, on behalf of the Government of Nova Scotia, administers and regulates exploration and development. It assigns and sets the provisions of leases for exploration and development projects and monitors projects to ensure they meet accepted standards of safety and performance.

The Department of Mines and Energy co-operates with other departments, industry, and other private sector groups in preparing for the impact of major energy developments. The Department is responsible for the effective evaluation, promotion and control of the development and use of Nova Scotia's energy resources for the optimum economic and social benefit of the Province.

2 DEFINITIONS

Argillareous rocks are a group of sedimentary rocks, commonly consisting of clay, shales, mudstones, siltstones, and marls.

Carbonates are sedimentary rocks that are primarily composed of calcium carbonate (limestone) or calcium magnesium carbonate (dolomite). Sometimes petroleum reservoirs are made up of carbonate rocks.

Clastics are sedimentary rocks that are composed of fragments of pre-existing rocks. Sandstone is a clastic rock.

Conglomerates are a type of rock consisting of rounded or subrounded fragments from beaches, flood plains, etc., which have become cemented together.

Condensates are hydrocarbons that condense to form liquids at the surface due to reduced pressure and temperature. Such compounds actually exist in a gaseous state in the reservoir. These liquids may be colorless or have red, yellow, blue or green shades. Others are indistinguishable from very light crude oils. Condensates usually include such compounds as pentanes (C_5H_{12}) and some of the heavier hydrocarbons.

Crude oil varies greatly in its properties and composition. Generally, the term is used to describe those hydrocarbons produced at a well which are liquids at the surface and are also in liquid state in the reservoir.

Fluvial is a term used to describe being found in or produced by a river.

Fractionation is a process of separating liquids or gases by using the differences in their boiling points.

Geopressured is the abnormally high pressure exerted by some subsurface formations. An example is the geopressured sandstones in the Sable Basin on the Scotian Shelf.

Hydrocarbons are organic compounds composed of carbon and hydrogen, which exist in a great variety of compounds. Petroleum is a mixture of many different hydrocarbons.

Lacustrine is a term used to describe being found in or produced by a lake.

Natural gas ("gas") refers to these lighter hydrocarbon compounds which, at surface temperature and pressure conditions, are in a gaseous state. These typically include such compounds as methane (CH_4), ethane (C_2H_6), propane (C_3H_8), and butane (C_4H_{10}).

Permeability is a measure of the ease with which fluids can flow through a porous rock; the fluid conductivity of a porous medium.

Physiography is the description of the features and phenomenon of nature.

Porosity is the amount of void space in a rock (which can contain fluids) and is measured as a percentage of the rock volume.

Stratigraphy is a branch of geology concerned with the study of the origin, composition, distribution, and succession of rock strata (beds of rock).

Topography is the science representing, as on maps and charts, the surface features of a region.

APPENDICES

3 DIRECTORY OF OFFSHORE WELLS

Data on recent and current wells are subject to minor change.
Data current to July 31, 1985.

ABBREVIATIONS

RT	Rotary Table
KB	Kelly Bushing
GL	Ground Level
P & A	Plugged and Abandoned
P & S	Plugged and Suspended
TD	Total Depth
TS	Temporarily Suspended

WELL SYMBOLS

- Drilling
- Temporarily Suspended
- Plugged and Abandoned
- Significant Gas
- Gas Show
- Significant Oil
- Oil Show
- Significant Oil and Gas
- Oil and Gas Show

WELL NAME	LATITUDE LONGITUDE	DRILLING UNIT	SPUD DATE RIG RELEASED	RT ELEVATION WATER DEPTH FEET (M)	TOTAL DEPTH IN FEET (M) (RT) WELL STATUS
Mobil Sable Island C-67	43° 56' 04.9" 59° 55' 01.4"	Bawden Rig 18	67-06-07 68-01-02	26.9 (8.2) KB 12.8 (3.9) GL	15,106 (4604.3) P & A
Shell Onondaga E-84	43° 43' 16.14" 60° 13' 17.41"	Sedneth 1	69-09-01 69-11-11	85 (25.9) 190 (57.9)	13,085 (3988.3) P & A
Shell Oneida O-25	43° 14' 57.36" 61° 33' 36.49"	Sedneth 1	69-11-16 70-02-10	85 (25.9) 270 (82.3)	13,516.7 (4119.9) P & A
Shell Naskapi N-30	43° 29' 46.78" 62° 33' 59.54"	Sedneth 1	70-02-16 70-03-19	85.3 (26) 312 (95.1)	7,235 (2205.2) P & A
Shell Mohawk B-93	42° 42' 10.52" 64° 43' 53.50"	Sedco H	70-05-03 70-05-23	103 (31.4) 383.9 (117)	6,975 (2126) P & A
Shell Mic Mac J-77	44° 36' 42.81" 50° 26' 10.86"	Sedneth 1	70-03-25 70-05-24	85.3 (26) 206 (62.8)	12,750 (3886.2) P & A
Shell Abenaki L-57	44° 16' 34.49" 59° 53' 39.64"	Sedco H	70-05-28 70-07-06	103 (31.4) 359 (108.8)	7,147 (2178.4) P & A
Shell Mississauga H-54	44° 23' 20.39" 59° 22' 47.56"	Sedneth 1	70-05-26 70-07-20	85 (25.9) 335 (102.1)	13,787 (4202.3) P & A
Shell Onondaga O-95	43° 44' 48.09" 60° 13' 52.60"	Sedco H	70-07-09 70-08-16	103 (31.4) 176.8 (53.9)	10,874 (3314.4) P & A
Shell Huron P-96	44° 35' 47.10" 58° 28' 50.63"	Sedneth 1	70-07-22 70-08-27	85 (25.9) 190 (57.9)	9,903 (3018.4) P & A
Shell Iroquois J-17	44° 26' 31.37" 59° 47' 12.28"	Sedco H	70-08-18 70-09-06	103 (31.4) 194.9 (59.4)	6,845 (2086.4) P & A
Shell Cree E-35	43° 44' 20.70" 60° 35' 55.89"	Sedco H	70-09-08 70-11-03	103 (31.4) 174.9 (53.3)	13,070 (3983.7) P & A
Shell Mic Mac H-86	44° 35' 27.71" 59° 27' 03.12"	Sedneth 1	70-08-31 70-12-02	85 (25.9) 178.1 (54.3)	15,700 (4785.4) P & A

WELL NAME	LATITUDE LONGITUDE	DRILLING UNIT	SPUD DATE RIG RELEASED	RT ELEVATION WATER DEPTH FEET (M)	TOTAL DEPTH IN FEET (M) (RT) WELL STATUS	
Shell Wyandot E-53	44° 52' 20.70" 59° 23' 54.05"	Sedco H	70-11-07 70-12-14	103 (31.4) 397 (121)	10,005 (3049.5) P & A	
Shell Argo F-38	45° 27' 23.22" 58° 50' 24.34"	Sedco H	70-12-17 71-02-19	103 (31.4) 234.9 (71.6)	11,110 (3386.3) P & A	
Shell Fox I-22	45° 21' 33.60" 59° 33' 16.00"	Sedco H	71-02-20 71-03-03	103 (31.4) 274.9 (83.8)	2,722 (829.7) P & A	
Shell Abenaki J-56	44° 15' 44.95" 59° 53' 03.22"	Sedneth 1	70-12-04 71-03-13	85 (25.9) 350 (106.7)	14,991 (4569.3) P & A	
Shell Erie D-26	44° 55' 03.52" 59° 34' 29.82"	Sedneth 1	71-03-16 71-04-11	85 (25.9) 321.9 (98.1)	7,795 (2375.9) P & A	
Mobil-Tetco Esperanto K-78	44° 47' 31.26" 59° 11' 19.24"	Sedco H	71-03-09 71-04-24	103 (31.4) 225.1 (68.6)	11,615 (3540.3) P & A	
Shell Crow F-52	45° 21' 24.23" 59° 08' 22.73"	Sedneth 1	71-04-12 71-04-27	85 (25.9) 310 (94.5)	4,943 (1506.6) P & A	
Shell Sauk A-57	44° 16' 05.70" 58° 37' 44.41"	Sedneth 1	71-04-30 71-07-10	85 (25.9) 196.9 (60)	15,010 (4575) P & A	
Mobil-Tetco Dauntless D-35	44° 44' 08.26" 57° 20' 46.62"	Sedco H	71-04-26 71-07-16	103 (31.4) 227 (69.2)	15,555 (4741.2) P & A	
Shell Chippewa L-75	44° 34' 35.87" 58° 41' 50.54"	Sedneth 1	71-07-12 71-08-12	81 (24.7) 222.1 (67.7)	6,975 (2125.9) P & A	
Shell Onondaga F-75	43° 44' 17.84" 60° 11' 36.25"	Sedco H	71-07-28 71-09-07	103 (31.4) 185 (56.4)	12,765 (3890.8) P & A	
Shell Triumph P-50	43° 39' 51.62" 59° 51' 02.36"	Sedneth 1	71-08-04 71-10-10	85 (25.9) 295.9 (90.2)	15,077 (4595.4) P & A	
Mobil-Tetco Sable Island E-48	43° 57' 20.35" 60° 07' 24.44"	Bawden Rig 14	71-05-28 71-10-15	21 (6.4) 0 (0)	11,820 (3602.7) P & A	
Shell Eurydice P-36	45° 25' 47.30" 60° 04' 46.97"	Sedco H	71-09-15 71-10-24	98.1 (29.9) 540 (164.6)	9,728 (2965.1) P & A	
Shell Chippewa G-67	44° 36' 20.50" 58° 39' 44.62"	Sedco H	71-10-28 71-12-18	98.1 (29.9) 230 (70.1)	12,040 (3669.8) P & A	
Shell Mohican I-100	42° 59' 39.04" 68° 28' 51.32"	Sedco H	71-12-27 72-03-10	98.1 (29.9) 503 (153.3)	14,414 (4393.4) P & A	
Shell Marmora C-34	43° 43' 13.79" 60° 05' 21.93	Sedneth 1	72-01-15 72-03-31	85 (25.9) 189 (57.6)	13,248 (4037.9) P & A	
Shell Primrose N-50	43° 59' 48.43" 59° 06' 51.63"	Sedco H	72-03-14 72-04-21	98.1 (29.9) 298 (90.8)	5,622 (1713.6) P & A	
Mobil-Tetco Sable Island 0-47	43° 56' 56.70" 60° 06' 38.08"	Bawden Rig 14	71-12-13 72-07-01	23 (7) KB 5.9 (1.8) GL	13,775 (4198.6) P & S	
Shell-Mobil-Tetco Eagle D-21	43° 50' 06.73" 59° 34' 09.21"	Sedco H	72-04-22 72-07-02	98.1 (29.9) 168 (51.2)	15,290 (4660.4) P & A	
Mobil-Tetco Sable Island 1-H-58	43° 57' 27" 60° 07' 37"	Bawden Rig 9	72-06-03 72-08-27	35.1 (10.7) KB 5.9 (1.8) GL	9,971 (3039.2) P & S	
Mobil-Tetco-Thebaud P-84	43° 53' 59.53" 60° 12' 19.34"	Sedco H	72-07-08 72-10-13	93.8 (28.6) 85 (25.9)	13,500 (4114.8) P & S	
Mobil-Tetco Sable Island 2-H-58	43° 57' 27.14" 60° 07' 37.73"	Bawden Rig 9	72-10-06 72-12-31	34.8 (10.6) KB 5.9 (1.8) GL	9,050 (2758.4) P & S	

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Shell Primrose A-41	44° 00' 05.68" 59° 06' 18.26"	Sedco H	72-10-15 73-01-27	98.1 (29.9) 359.9 (109.7)	11,865 (3616.5) P & A	☼
Shell Primrose F-41	44° 00' 29.55" 59° 07' 06.52"	Sedco H	73-01-30 73-03-05	98.1 (29.9) 225.1 (68.6)	8,505 (2592.3) P & A	☼
Mobil-Tetco Sable Island 3-H-58	43° 57' 27.20" 60° 07' 37.80"	Bawden Rig 9	73-01-01 73-03-21	34.8 (10.6) KB 5.9 (1.8) GL	12,270 (3739.9) P & S	✸
Shell Marmora P-35	43° 44' 59.36" 60° 04' 47.58"	Sedco H	73-03-06 73-04-21	98.1 (29.9) 174.9 (53.3)	13,428 (4092.9) P & A	☼
Mobil-Tetco Bluenose G-47	44° 06' 20.79" 59° 21 27.35"	Sedco J	73-01-25 73-04-25	98.1 (29.9) 267.1 (81.4)	15,050 (4587.2) P & A	☼
Shell Tuscarora D-61	44° 40' 10.35" 58° 55' 10.85"	Sedco H	73-04-23 73-06-02	98.1 (29.9) 258.9 (78.9)	12,925 (3939.5) P & A	☼
Mobil-Tetco Cohasset D-42	43° 51' 06.52" 60° 37' 13.89"	Sedco J	73-04-27 73-07-16	103 (31.4) 135 (41.1)	14,525 (4427.2) P & S	●
Mobil-Tetco Sable Island 4-H-58	43° 57' 27.20" 60° 07' 37.80"	Bawden Rig 9	73-03-22 73-08-11	34.8 (10.6) KB 5.9 (1.8) GL	14,827 (4519.3) P & S	☼
Shell Amoco Cap Rouge F-52	47° 11' 20.29" 61° 08' 15.32"	Sedco H	73-06-08 73-09-03	102 (31.1) 186 (56.7)	16,182 (4932.3) P & A	☼
Mobil-Tetco Sable Island 5-H-58	43° 57' 27.20" 60° 57' 37.80"	Bawden Rig 9	73-08-15 73-09-18	34.8 (10.6) KB 5.9 (1.8) GL	8,130 (2478) P & A	✸
Mobil-Tetco Sable Island 6-H-58	43° 57' 27.20" 60° 07' 37.80"	Bawden Rig 9	73-09-22 73-10-18	34.8 (10.6) KB 5.9 (1.8) GL	7,727 (2355.2) P & A	☼
Union et al Shell Ojibwa E-07	43° 46' 20.44" 61° 46' 14.42"	Sedco H	74-02-04 74-02-28	98.1 (29.9) 248 (75.6)	7,643 (2329.6) P & A	☼
Mobil-Tetco-Texaco Citnalta I-59	44° 08' 42.58" 59° 37' 32.11"	Sedco J	74-02-04 74-04-29	98.1 (29.9) 310 (94.5)	15,010 (4575) P & A	☼
Shell Demascota G-32	43° 41' 27.20" 60° 49' 54.00"	Sedco H	74-03-01 74-05-20	98.1 (29.9) 178.1 (54.3)	15,329 (4672.3) P & A	☼
Union et al Sambro I-29	43° 38' 35.04" 62° 48' 17.04"	Sedco H	74-05-23 74-06-27	98.1 (29.9) 634.8 (193.5)	10,071 (3069.6) P & A	☼
Union et al Jason C-20	45° 29' 06.45" 58° 32' 28.27"	Sedco H	74-07-03 74-07-22	98.1 (29.9) 370.1 (112.8)	8,146 (2482.9) P & A	☼
Union et al Hercules G-15	45° 34' 20.65" 58° 47' 13.06"	Sedco H	74-07-23 74-08-01	98.1 (29.9) 379.9 (115.8)	3,547 (1081.1) P & A	☼
Texaco-Shell Intrepid L-80	43° 49' 35.78" 59° 56' 43.82"	Sedco J	74-05-18 74-08-15	103 (31.4) 143 (43.6)	13,655 (4162) P & A	☼
Murphy et al North Sydney P-05	46° 34' 46.24" 59° 45' 01.65"	Sedco H	74-08-10 74-09-07	98.1 (29.9) 206 (62.8)	5,449 (1660.9) P & A	☼
Union et al Montagnais I-94	42° 53' 40.71" 64° 13' 46.51"	Sedco H	74-09-12 74-09-29	98.1 (29.9) 370.1 (112.8)	5,400 (1645.9) P & A	☼
Mobil-Tetco-Gulf Adventure F-80	45° 19' 27.54" 57° 56' 22.80"	Sedco J	75-01-13 75-02-22	98.1 (29.9) 324.1 (98.9)	6,559 (1999.2) P & A	☼
Mobil-Texaco Sachem D-76	44° 35' 09.22" 57° 41' 58.29"	Sedco J	75-05-17 75-07-30	98.1 (29.9) 191.9 (58.5)	16,006 (4878.6) P & A	☼
Shell Onondaga B-96	43° 45' 08.23" 60° 14' 09.63"	Sedco H	76-01-12 76-03-21	98.1 (29.9) 198.2 (60.4)	12,328 (3757.6) P & A	☼

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Petro-Canada Shell Mic Mac D-89	44° 38' 08.86" 59° 28' 18.93"	Sedco H	76-03-26 76-05-04	98.1 (29.9) 279.9 (85.3)	10,552 (3216.4) P & A	
Petro-Canada Mobil Hesper I-52	44° 41' 40.33" 57° 52' 32.24"	Sedco H	76-05-08 76-06-05	98.1 (29.9) 138.1 (42.1)	9,200 (2804.2) P & A	
Shell et al North Sydney F-24	46° 33' 23.12" 59° 48' 45.47"	Sedco H	76-06-09 76-06-14	98.1 (29.9) 195.9 (59.7)	5,600 (1706.8) P & A	
Petro-Canada-Shell Penobscot L-30	44° 09' 43.55" 60° 04' 09.33"	Sedco H	76-07-18 76-09-23	98.1 (29.9) 451.1 (137.5)	14,000 (4267.2) P & A	
Petro-Canada-Shell Wenonah J-75	43° 34' 34.43" 60° 26' 13.72"	Sedco H	76-09-26 76-11-15	98.1 (29.9) 218.8 (66.7)	12,040 (3669.8) P & A	
Petro-Canada-Shell Mohelda P-15	43° 04' 56.31" 62° 16' 44.32"	Sedco H	76-11-18 77-02-15	98.1 (29.9) 367.1 (111.9)	14,100 (4297.7) P & A	
Shell-Petro-Canada Penobscot B-41	44° 10' 02.44" 60° 06' 34.50"	Sedco H	77-02-18 77-03-30	98.1 (29.9) 386.8 (117.9)	11,300 (3444.2) P & A	
Mobil-Tetco-PEX Migrant N-20	43° 59' 56.24" 60° 17' 18.23"	Gulftide	77-07-29 78-01-23	85.6 (26.1) 44.9 (13.7)	15,317 (4668.7) P & A	
Mobil-Tetco-PEX Thebaud I-94	43° 53' 43.67" 60° 13' 38.13"	Gulftide	78-02-26 78-06-03	98.1 (29.9) 91.9 (28)	13,000 (3962.3) P & A	
Chevron-PEX Shell Acadia K-62	42° 51' 42.54" 61° 55' 00.21"	Ben Ocean Lancer	78-04-11 78-08-02	42 (12.8) 2841.9 (866.2)	17,343 (5286.1) P & A	
Mobil-Tetco-PEX Cohasset P-42	43° 51' 48.23" 60° 36' 16.62"	Gulftide	78-06-09 78-07-10	100.1 (30.5) 111.9 (34.1)	8,500 (2590.8) P & A	
Mobil-Tetco-PEX Cohasset L-97	43° 56' 37.19" 60° 29' 58.55"	Gulftide	78-07-13 78-11-13	100.1 (30.5) 70.9 (21.6)	15,984 (4871.9) P & A	
Mobil-Texaco-PEX Venture D-23	44° 02' 15.00" 59° 34' 21.00"	Gulftide	78-11-28 79-06-16	104 (31.7) 65.9 (20.1)	16,224 (4945) P & S	
Mobil et al Venture B-13	44° 02' 11.61" 59° 32' 03.54"	Rowan Juneau	80-08-17 81-06-06	110.9 (33.8) 81 (24.7)	17,100 (5212) P & S	
Mobil et al Venture B-43	44° 01' 45.01" 59° 37' 21.03"	Rowan Juneau	81-07-06 82-04-25	110.9 (33.8) 66.9 (20.4)	19,265 (5872) P & S	
Petro-Canada et al Banquereau C-21	44° 01' 07.52" 58° 34' 00.24"	Bow Drill 1	81-12-02 82-08-01	88.6 (27) 272.3 (83)	16,375 (4991) P & S	
Mobil et al Olympia A-12	44° 01' 03.27" 59° 46' 44.09"	Zapata Scotian	82-04-23 83-01-10	125 (38.1) 130.9 (39.9)	19,895 (6064) P & S	
Mobil et al South Venture O-59	43° 58' 52.83" 59° 38' 08.49"	Rowan Juneau	82-04-29 83-01-02	116.1 (35.4) 80.1 (24.4)	20,262 (6176) P & S	
Petro-Canada et al Banquereau I-13	44° 12' 33.16" 58° 31' 49.38"	Bow Drill 1	82-08-02 82-12-27	88.6 (27.0) 319.2 (97.3)	17,021 (5188) P & A	
Petro-Canada et al West Esperanto B-78	44° 47' 03.40" 58° 26' 11.22"	SDS Vinland	82-08-22 83-05-05	76.4 (23.3) 298.9 (91.1)	18,711 (5703) P & A	
Shell et al Shubenacadie H-100	42° 49' 28.43" 61° 28' 42.81"	Sedco 709	82-11-05 83-02-12	79.1 (24.1) 4,839.2 (1475)	13,780 (4200) P & A	
Mobil et al Bluenose 2G-47	44° 06' 22.30" 59° 21' 23.05"	John Shaw	82-12-30 83-09-05	80.1 (24.4) 279.9 (85.3)	19,019 (5797) P & A	

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Mobil et al Venture B-52	44° 01' 12.88" 59° 38' 07.76"	Rowan Juneau	83-01-19 83-10-27	111.5 (34) 65 (19.5)	19,554 (5960) P & A	✲
Mobil et al Arcadia J-16	44° 05' 43.58" 59° 31' 58.19"	Zapata Scotian	83-01-27 83-07-19	125 (38.1) 182.1 (55.5)	19,701 (6005) P & S	✲
Petro-Canada et al S.W. Banquereau F-34	44° 03' 15.63" 58° 50' 21.60"	Bow Drill 1	83-02-20 83-08-30	81.7 (24.9) 373 (113.7)	20,699 (6309) P & A	✲
Shell-Petro-Can et al Glenelg J-48	43° 37' 39.00" 60° 06' 25.44"	Sedco 709	83-02-22 83-11-07	78.7 (24) 274.6 (83.7)	16,890 (5148) P & A	✲
Shell-Petro-Can et al Uniacke G-72	44° 11' 29.17" 59° 41' 09.75"	SDS Vinland	83-05-09 84-04-04	77.1 (23.5) 501.6 (152.9)	18,816 (5735) P & A	✲
Mobil et al Venture H-22	44° 01' 24.10" 59° 33' 06.10"	Zapata Scotian	83-07-26 84-04-16	125 (38.1) 78.7 (24)	19,501 (5944) P & S	✲
Husky-Bow Valley et al Glooscap C-63	43° 12' 09.85" 62° 09' 56.73"	Bow Drill 2	83-08-07 84-01-03	75.1 (22.9) 324.8 (99)	14,902 (4542) P & A	✲
Petro-Canada et al St. Paul P-91	47° 10' 57.88" 60° 13' 36.83"	Bow Drill 1	83-09-02 83-12-31	81.7 (24.9) 570.5 (173.9)	9,465 (2885) P & A	✲
Home et al Louisbourg J-47	44° 26' 43.08" 58° 21' 26.02"	Glomar Labrador 1	83-11-25 84-10-13	125.3 (38.2) 207 (63.1)	19,826 (6043) P & A	✲
Shell-Petro-Can et al Alma F-67	43° 36' 18.49" 60° 39' 56.49"	Sedco 709	83-12-02 84-07-05	78.7 (24) 155.7 (68)	16,581 (5054) P & S	✲
Husky-Bow Valley Chebucto K-90	43° 39' 44.74" 59° 42' 52.05"	Bow Drill 2	84-01-06 84-08-02	74.8 (22.8) 357.6 (109)	17,175 (5235) P & A	✲
Husky-Bow Valley et al South Griffin J-13	44° 22' 39.89" 58° 01' 55.20"	Rowan Gorilla 1	84-01-08 84-08-20	129.9 (39.6) 208 (63.4)	19,393 (5911) P & A	✲
Petro-Canada et al Bonnet P-23	42° 22' 48.64" 65° 03' 01.89"	Bow Drill 1	84-01-14 84-04-04	82 (25) 438 (133.5)	14,226 (4336) P & A	✲
Husky-Bow Valley Evangeline H-98 (Re-entered Well)	43° 17' 26.85" 60° 58' 50.60"	Bow Drill 3 Bow Drill 2	84-03-27 84-06-16 84-08-08 84-11-01	70.9 (21.6) 570.9 (174) 73.8 (22.5) 570.9 (174)	11,040 (3365) 16,549 (5044) P & A	✲
Shell-Petro-Can et al South Desbarres O-76	44° 05' 56.07" 59° 58' 58.02"	SDS Vinland	84-04-17 84-10-13	77.8 (23.7) 226.4 (69)	19,813 (6039) P & A	✲
Petro-Can et al Dover A-43	44° 22' 09.02" 60° 06' 09.28	Bow Drill 1	84-04-17 84-07-10	82 (25) 380.6 (116)	14,846 (4525) P & A	✲
Mobil et al West Venture N-91	44° 00' 45.82" 59° 44' 27.33"	Zapata Scotian	84-04-19 85-07-07	128.9 (39.3) 125 (38.1)	18,199 (5547) P & A	✲
Mobil et al West Venture C-62	44° 01' 02.78" 59° 40' 00.25"	Rowan Juneau	84-05-19 85-03-23	110.9 (33.8) 54.1 (16.5)	18,117 (5522) P & A	✲
Shell PCI et al Glenelg E-58 and E-58A*	43° 37' 17.20" 60° 08' 56.10"	Sedco 709	84-07-07 84-10-20	78.7 (24) 259.2 (79)	13,753 (4192) P & A	✲

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Bow Valley-Husky et al Hesper P-52	44° 41' 50.95" 57° 52' 47.72"	Rowan Gorilla 1	84-08-22 85-05-01	132.9 (40.5) 146 (44.5)	15,632 (5679) P & A	⊕
Shell-Petro-Can et al Glenelg H-38	43° 37' 19.33" 60° 04' 48.61"	Sedco 709	84-10-26 85-01-26	79.1 (24.1) 293 (89.3)	15,961 (4865) P & A	⊕
Mobil et al West Venture B-92	44° 01' 08.51" 59° 43' 59.68"	Glomar Labrador 1	84-10-24 84-12-13	121.4 (37) 137.8 (42)	2,369 (722) P & A	⊕
Petro-Can/Texaco et al Albatross B-13	42° 41' 10.67" 63° 02' 11.83"	Sedco 710	84-12-12 85-03-28	78.7 (24) 4,399.6 (1341)	13,274 (4046) P & A	⊕
Home Oil et al Citadel H-52	44° 11' 25.07" 58° 52' 39.87"	Glomar Labrador 1	84-12-18 85-05-31	125.7 (38.3) 214.2 (65.3)	18,589 (5666) P & A	⊕
Mobil et al West Venture N-01	44° 00' 58.80" 59° 45' 51.69"	Rowan Gorilla 3	85-01-20 85-06-30	12.5 (38.1) 134.8 (41.1)	11,916 (3632) P & A	⊕
Shell-PCI et al Alma K-85	43° 34' 44.3" 60° 43' 01.7"	Sedco 709	85-01-29 85-04-10	78.7 (24) 223.1 (68)	11,818 (3602) P & A	✲
Petro-Can et al Shelburne G-29	42° 38' 26.87" 63° 33' 33.46"	Sedco 710	85-03-31 85-04-06	82 (25) 3,684.4 (1123)	5,302 (1616) Suspended	○
Mobil et al Thebaud I-93	43° 52' 44.4" 60° 13' 50.9"	Rowan Juneau	85-03-27	121.4 (37) 98.4 (30)	Drilling	
Shell-PCI et al Peskowesk A-99	44° 28' 13.84" 58° 58' 40.98"	Sedco 706	85-04-22 85-06-13	90.2 (27.5) 203.4 (62)	13,202 (4024) P & A	⊕
Mobil et al West Olympia O-51	44° 00' 47.80" 59° 53' 03.58"	Rowan Gorilla 1	85-06-23	121.4 (37) 134.5 (41)	Drilling	
Shell-PCI et al Kegeshook G-67	44° 06' 28.9" 60° 24' 31.3"	Glomar Labrador 1	85-06-11	124.7 (38) 203.4 (62)	Drilling	
Shell-PCI et al Merigomish C-52	43° 31' 02.65" 60° 38' 33.76"	Sedco 706	85-06-15	90.2 (27.5) 246.1 (75)	Drilling	

*deviation from original well E-58

APPENDICES

4 DIRECTORY OF ONSHORE WELLS

WELL NAME	LATITUDE LONGITUDE	COMPANY (OPERATOR)	SPUD DATE COMPLETION DATE/ RIG RELEASE	DEPTH IN FEET (M) WELL STATUS[1]
•	46°06'22" 61°11'00"	Lake Ainslie Pioneer Oil & Salt Co.	summer, 1869	802 (224.5)
•	46°06'22" 61°11'00"	Lake Ainslie Pioneer Oil & Salt Co.	1869 1876	1600 (487.7)
NSDM Record #11	46°06'22" 61°11'00"	Lake Ainslie Pioneer Oil & Salt Co.	1874	650 (198.1)
NSDM Record #12	46°06'22" 61°11'00"	Lake Ainslie Pioneer Oil & Salt Co.	1874	900 (274.3)
•	46°06'22" 61°11'00"	Cape Breton Oil & Mining Co.	1875	1100 (335.3)
•	46°06'22" 61°11'00"	Lake Ainslie Pioneer Oil & Salt Co.	1877-05	•
•	46°06'22" 61°11'00"	•	autumn, 1877	•
NSDM Record #33	45°33'36" 62°40'00"	•	1878	280 (85.3)
NSDM Record #34	46°10'36" 60°47'07"	Victoria Oil Co.	1880	500 (152.4)
•	46°06'30" 61°07'49"	•	pre-1897	•
•	46°07'13" 61°08'26"	•	pre-1897	•
NSDM Record #52	•	•	1897	•
•	•	•	1898-04	•
•	45°04'07" 64°11'12"	•	1902	1300 (396.2)
NSDM Record #88	46°01'51" 61°11'48"	•	summer, 1902	1100 (335.3)
NSDM Record #91	45°31'18" 62°42'25"	•	1902-11-18 1903-07-10	620 (189.0)
Cheverie #1 NSDM Record #90	45°09'35" 64°09'54"	Nova Scotia Oil & Gas Co.	1903	1910 (582.2)
•	45°08'47" 64°08'42"	Nova Scotia Oil & Gas Co.	1903	1900 (579.1)
•	45°10'23" 64°09'45"	Nova Scotia Oil & Gas Co.	1903	1000 (304.8)
Falmouth Station #1	44°59'09" 64°10'13"	•	1911	1911 (582.5)
Lake Ainslie #1	46°11'03" 61°11'10"	Maritime Oil & Gas Co. Ltd.	1912	800 (243.8)
Lake Ainslie #2	46°11'07" 61°11'05"	Maritime Oil & Gas Co. Ltd.	1912	1612 (491.3)
Lake Ainslie #3	46°11'05" 61°11'06"	Maritime Oil & Gas Co. Ltd.	1912-1914	1120 (341.4)

WELL NAME	LATITUDE LONGITUDE	COMPANY (OPERATOR)	SPUD DATE COMPLETION DATE/ RIG RELEASE	DEPTH IN FEET (M) WELL STATUS[1]
Lake Ainslie #4	46°11'04" 61°10'56"	Maritime Oil & Gas Co. Ltd.	1912-1914 •	1100 (335.3)
Lake Ainslie #5	46°10'55" 61°11'07"	Maritime Oil & Gas Co. Ltd.	1912-1914 •	870 (265.2)
Lake Ainslie #6	46°10'52" 61°11'03"	Maritime Oil & Gas Co. Ltd.	1912-1914 •	•
•	46°09'48" 61°12'56"	Gulf Oil Co.	1926 •	900 (274.3)
NSDM Record #484 Borehole #1	46°01'35" 64°27'13"	Gulf Oil Co.	1926-06-17 1926-09-17	702 (214.0)
NSDM Record #485 Borehole #2	46°01'36" 61°27'13"	Gulf Oil Co.	1926-09-18 1927-01-10	582 (177.4)
NSDM Record #505 Borehole #1	46°02'32" 61°27'57"	Gulf Oil Co.	1926-09-11 1926-09-19	76.5 (23.32)
NSDM Record #506 Borehole #2	46°02'34" 61°27'57"	Gulf Oil Co.	1926-09-22 1926-10-12	215 (65.5)
NSDM Record #524 Borehole #3	46°02'36" 61°27'57"	Gulf Oil Co.	1926-10-13 1926-10-23	110 (33.5)
NSDM Record #525 Borehole #4	46°02'36" 61°27'57"	Gulf Oil Co.	1926-10-23 1926-11-04	220 (67.1)
NSDM Record #526 Borehole #5	46°02'29" 61°27'57"	Gulf Oil Co.	1926-11-05 1926-11-12	177 (53.9)
NSDM Record #527 Borehole #6	46°02'35" 61°27'57"	Gulf Oil Co.	1926-11-13 1927-02-28	648 (197.5)
NSDM Record #528 Borehole #7	46°01'40" 61°26'46"	Gulf Oil Co.	1927-03-06 1927-03-30	600 (182.9)
NSDM Record #529 Borehole #8	42°02'39" 61°27'57"	Gulf Oil Co.	1927-04-01 1927-04-26	664 (202.4)
NSDM Record #530 Borehole #9	46°03'21" 61°20'45"	Gulf Oil Co.	1927-05-05 1927-06-10	661 (201.5)
NSDM Record #531 Borehole #1	46°24'50" 61°06'15"	Gulf Oil Co.	1927-06-11 1927-06-24	81 (24.7)
NSDM Record #532 Borehole #2	46°24'48" 61°06'15"	Gulf Oil Co.	1927-05-25 1927-08-04	712 (217.0)
NSDM Record #533 Borehole #3	46°24'46" 61°06'15"	Gulf Oil Co.	1927-08-04 1927-08-29	189 (57.6)
NSDM Record #534 Borehole #4	46°24'44" 61°06'15"	Gulf Oil Co.	1927-08-30 1927-09-14	210 (64.0)
NSMD Record #535 Borehole #5	46°25'35" 61°05'04"	Gulf Oil Co.	1927-09-15 1927-10-07	360 (109.7)
Nappan #1	45°46'05" 64°13'42"	Imperial Oil Ltd.	1927-11 1927-12	673 (205.1)
Nappan #2	45°46'27" 64°13'52"	Imperial Oil Ltd.	1927-11 1927-12	159 (48.5)
Nappan #3	45°46'18" 64°13'41"	Imperial Oil Ltd.	1927-12 1928-01	210 (54.0)
Nappan #4	45°46'51" 64°14'08"	Imperial Oil Ltd.	1928-1929 •	795 (242.3)

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WELL NAME	LATITUDE LONGITUDE	COMPANY (OPERATOR)	SPUD DATE COMPLETION DATE/ RIG RELEASE	DEPTH IN FEET (M) WELL STATUS[1]
Nappan #5	45°47'00" 64°11'24"	Imperial Oil Ltd.	1928-1929 •	795 (242.3)
Nappan #6	45°47'00" 64°11'24"	Imperial Oil Ltd.	1928-1929 •	298 (90.8)
NSDM Record #710, Nappan #7, Borehole #1	45°47'48" 64°13'24"	Imperial Oil Ltd.	1929-09-09 1929-10-15	432 (131.7)
Nappan #8	45°47'20" 64°13'21"	Imperial Oil Ltd.	1929 •	340 (103.6)
NSDM Record #720 Nappan #9 Borehole #2	45°47'55" 64°12'14"	Imperial Oil Ltd.	1929-10-31 1929-12-02	740 (225.6)
Nappan #10	45°48'00" 64°13'21"	Imperial Oil Ltd.	1929-1930 •	316 (96.3)
Scotsburn No. 1	45°37'52" 63°00'13"	Imperial Oil Ltd.	1930-09-09 1931-01-03	1980 (603.5)
Amherst No. 1	45°47'12" 64°13'23"	Imperial Oil Ltd.	1931-09-09 1931-07-27	4134 (1260)
McIsaac Gas Well	46°05'42" 61°11'48"	•	1938 •	1700 (518.2)
Mac No. 1	46°01'49" 61°27'37"	Lion Oil Refining Co.	1944 •	5579 (1701)
Mary No. 1	46°02'06" 61°28'06"	Lion Oil Refining Co.	1944 •	6869 (2094)
Anthony No. 1	45°10'39" 63°43'54"	Nova Scotia Oil & Gas Co.	1944 1944/45	638 (194)
Anthony No. 2	45°10'40" 63°43'54"	Nova Scotia Oil & Gas Co.	1945 spring, 1945	870 (265.2)
Sunoco No. 1	45°47'05" 64°13'39"	Sun Oil Co. Ltd.	spring, 1945 Nov., 1945	6499 (1981)
Sunoco No. 1A	45°47'05" 64°13'39"	Sun Oil Co. Ltd.	1946-04-15 1947-09-01	11,504 (3506)
NSDM Record No. 1171	45°35'30" 62°30'12"	Pictou Petroleum Co.	1946-05-16 1946-07-16	645 (197)
NSDM Record No. 1172	45°35'25" 62°30'15"	Pictou Petroleum Co.	1946-05-16 1946-07-16	36.5 (11.1)
NSDM Record No. 1096	46°07'55" 60°00'18"	Sydney Petroleum Co.	1946-09-01 1946-10-24	253 (77)
NSDM Record No. 1097	46°08'12" 59°59'58"	Sydney Petroleum Co.	1946-09-01 1046-10-24	233 (71)
NSDM Record No. 1098	46°07'06" 60°01'55"	Sydney Petroleum Co.	1946-09-01 1946-10-24	81 (25)
NSDM Record No. 1235	45°58'29" 60°56'50"	Little Narrows Petroleum Co.	1946-11-26 1947-07-08	327 (99.7)
NSDM Record No. 1236	45°58'29" 60°56'50"	Little Narrows Petroleum Co.	1946-11-26 1947-07-08	1614 (492)

WELL NAME	LATITUDE LONGITUDE	COMPANY (OPERATOR)	SPUD DATE COMPLETION DATE/ RIG RELEASE	DEPTH IN FEET (M) WELL STATUS[1]
NSDM Record No. 1452	45°58'56" 60°56'45"	Little Narrows Petroleum Co.	1947-10-15 1948-04-22	2004 (610.8)
NSDM Record No. 1453	46°05'49" 61°14'53"	Little Narrows Petroleum Co.	1948-08-09 1948-09-30	694 (211.5)
NSDM Record No. 1505	45°44'17" 62°01'05"	Nova Scotia Dept. of Mines	1949-07-13 1949-09-19	712 (217)
Anthony #3	45°10'42" 63°43'54"	Nova Scotia Oil & Gas Co.	1951 1951	2588 (788.8)
Inverness #1	46°03'42" 61°23'48"	Imperial Oil Ltd.	1958-08-26 1958-09-10	510 (155.5)
Inverness #2	46°02'06" 61°22'35"	Imperial Oil Ltd.	1958-08-26 1958-09-10	260 (79.3)
Inverness #3	46°06'54" 61°11'46"	Imperial Oil Ltd.	1958-08-26 1958-09-10	480 (146.3)
Inverness #4	45°55'30" 61°27'24"	Imperial Oil Ltd.	1958-08-26 1958-09-10	470 (143.3)
Inverness #5	46°05'12" 61°09'43"	Imperial Oil Ltd.	1958-08-26 1958-09-10	100 (30.5)
Inverness #6	46°04'48" 61°09'39"	Imperial Oil Ltd.	1958-08-26 1958-09-10	170 (51.8)
Lura #1 NSDM Record #2671	45°39'42" 61°50'50"	Lura Corp. Ltd.	1958-10-04 1958-12-12	1193 (607.5)
Mabou #1	46°01'25" 61°24'03"	Imperial Oil Ltd.	1959-10-24 1959-12-31	5145 (1568.2)
Port Hood #1	46°01'55" 61°28'57"	Imperial Oil Ltd.	1960-01-16 1960-04-11	9840 (2999.2)
Pacific Fox Harbour	45°50'56.25" 63°30'46.87"	Pacific Petroleum Ltd.	1963-12-10 1964-05-04	9853 (3003.2)
Birch Grove #1	46°08'42.4" 59°56'05.04"	Murphy Oil Co. Ltd.	1968-02-08 1968-03-24	4408 (1343.6)
Wallace Station #1	45°46'15" 63°30'30"	Anschutz Corp.	1973-12-22 1973-08-29	14,883 (4536)
Hastings #1	45°50'35" 64°04'52"	Gulf Oil Canada Ltd.	1975-06-11 1975-08-11	9644 (2939.5)
Noel #1	45°12'45" 63°42'17"	Soquip A.C.C. et al	1975-07-18 1975-08-13	4750 (1447.8)
Bras d'or Anschutz #1	45°39'10.86" 61°53'1.37"	Bras d'or Oil Company Ltd.	1976-07-27 1976-08-14	3427 (1044.6)
Bras d'or No. 3A-78	45°52'30" 61°00'20"	Chevron Standard Ltd.	1978-07-23 •	597 (182)
Bras d'or #1	45°52'30" 61°00'20"	Chevron Standard Ltd.	1979-09-21 1979-09-30	709 (216.1)
Bras d'or #2	45°52'45" 61°00'05"	Chevron Standard Ltd.	1979-10-03 1979-10-15	1230.3 (375)
Malagawatch #1	45°52'05" 60°55'18"	Chevron Standard Ltd.	1979-10-31 •	10,203 (3110)

APPENDICES

WELL NAME	LATITUDE LONGITUDE	COMPANY (OPERATOR)	SPUD DATE COMPLETION DATE/ RIG RELEASE	DEPTH IN FEET (M) WELL STATUS[1]
Scotsburn #2	45°38'21.59" 63°00'10.78"	Chevron Standard Ltd.	1981-08-11 1981-11-29	8654.9 (2638)
Port Malcom	45°34'49.89" 61°17'43.82"	Corkan Engineering of Canada Ltd.	1983-09-13 1983-10-16	3582 (1091.8)
Bear Island	45°34'21.64" 61°17'54.07"	Corkan Engineering of Canada Ltd.	1983-09-30 1984-01-11	1359 (414.2)
Loch Lomond	45°46'11.24" 60°35'26.89"	Corkan Engineering of Canada Ltd.	1983-10-28 1984-03-01	810 (246.9)
North Glen	45°50'31.59" 60°30'9.92"	Corkan Engineering of Canada Ltd.	1983-10-27 1984-03-02	4120 (1255.8)

• Data is incomplete on these wells
[1] All wells P & A